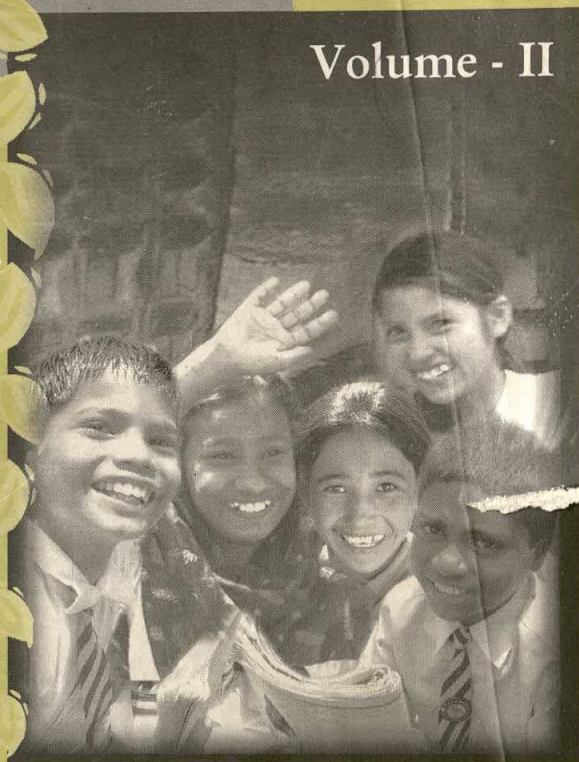


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National Curriculum Framework - 2005

Volume - II

*Syllabus for Secondary  
and  
Higher Secondary Classes*



(283)



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# SYLLABUS

## Volume II


S.C.E.R.T., W.B.  
N.C.F., '2005

### SECONDARY AND HIGHER SECONDARY LEVELS



राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्  
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING





perceptions. Our syllabi have made a conscious attempt to value the learner's mindful effort and gain in the immediate present. The future hangs heavily on the higher secondary stage of education; therefore, no syllabus can ignore the demands that further studies are going to make. At the same time, it is necessary to be aware of the curricular reorganisation and reform which have already begun in certain universities, at least in certain disciplines, and will undoubtedly spread to others. For quite a while now, flexibility in choices and the opportunity to reconsider have been in demand, particularly on account of the stress that young people feel in making long-term choices under pressure and without the benefit of either perspective or experience. We hope that school authorities and teachers, and also curriculum designers in universities, will notice the attempt the NCERT has made in this new set of syllabi to recognise the different kinds of challenges for maturation which are inherent in the range of school subjects offered by schools. Such a recognition should enable schools to adopt a more flexible and considerate approach towards the organisation of choices and time.

The NCERT is keen to continue its effort to contemplate the basic nature of each subject area and the boundaries between subjects and stages, from the perspective of children. We are aware of both the nature and the logic of the goal that inclusive schooling presents in terms of knowledge and its curricular design. Our new textbooks use every opportunity that the redesigned syllabi offer for turning the values and ideals of the Constitution of India into classroom experience. Social justice spans a wide range of values and practices, the most important ones being equality, dignity, sensitivity and tolerance for differences. Gender, caste and class, rural and urban backgrounds, and education as accumulated cultural capital present some of the most important issues that architects of knowledge must deal with full awareness of the transformative agenda of the Constitution. Questions of ability and capacity are the special precincts of the school which have a bearing on the extent to which education serves the Constitution. In the case of children with different forms of disability, the systemic and curricular reforms needed are of a drastic nature, but even in a more generalised sense we must measure with precision and self-confidence the long road to the goal of enabling the system of education to receive and nurture every child. In the model of nation-building that the Constitution provides us with, every child matters.

*Director*

New Delhi

7 March 2006

National Council of Educational  
Research and Training



# PREAMBLE

The National Curriculum Framework – 2005 reiterates the values enshrined in our Constitution, reduction of curricular burden on children, ensuring quality education for all and systemic changes as markers of curricula reform. It recognises the primacy of children's experiences, their voices and their active involvement in the process of learning. Learning experiences at school should pave the way for construction of knowledge and fostering creativity and become a source of joy, not stress. Curricular transactions seek hands-on experiences and project based approaches. Concerns and issues pertaining to environment, peace oriented values, gender, SC & ST and minorities must inform various subjects and school experiences. Examination system seeks a shift from content based testing to problem solving and competency based assessment. These are what the National Curriculum Framework (NCF) says, and the document was approved by Central Advisory Board of Education (CABE) on 7 September 2005. The Syllabus Committees setup for various stages of school education involving scholars, subject experts, teachers and the NCERT faculty held several meetings and deliberated on the ideas reflected in the NCF and formulated the syllabi. A Monitoring Committee appointed by the Ministry of Human Resource Development, as per the recommendations of CABE, approved the new syllabi in its meeting held on 4 October 2005.

As recommended by the NCF, in the area of language teaching, the thrust of the new syllabi is on creating meaningful contexts for language acquisition. The approach to be followed for sound language teaching would treat languages as a tool to structure thought processes and to explore different realms of knowledge and imagination. The NCF recommends that the multilingual character of our society should be treated as a resource and school teaching should focus on what the child understands. The Syllabus aims at arousing curiosities and interests in children to share their ideas and experiences, to listen patiently others ideas and relate their own experiences with listened stories and poetry, and able to express themselves orally and through paintings. At primary stage, it aims at creating interest in reading books and developing gradually the required language skills. The focus shifts to preparing children to express their views clearly and confidently about any language, person, object, place, and structure by analysing and explaining them at upper primary stage. At secondary stage the emphasis is placed on oral and written expressions. The syllabus at senior secondary stage is designed to nurture a sense of appreciation, enjoyment and critical vision towards creative literature and use of language for peace in adverse situations. The proposed syllabus tends to integrate the concerns related to environment, gender, peace, health, work and arts.

In the mathematics, the new syllabi emphasise reasoning and conceptual grasp at every stage. In the primary mathematics, weightage has been provided to areas like shapes, spatial understanding, patterns, measurement and data handling. The new approach uses hands-on experiences and





utilisation of resources available in the child's environment. At the upper primary stage the focus is placed on number system, algebra, geometry, mensuration and data handling. They are meaningfully woven around situations which permit learning to proceed from concrete to abstract, consolidating and expanding the experiences of child and engaging the learner through problems. Mathematical modelling, data analysis and interpretation provided at secondary stage set the frame to perceive mathematics as a discipline. At higher secondary stage, constructivism and problem solving form the twin objectives of syllabus formulation. Interactive approaches, visualisation concepts and their linkages, and interactive approaches have been given adequate coverage. Emphasis on activity rather than rote memorisation of facts and formulae continues through all stages.

The syllabus for Environmental Studies (EVS) upto Class V has been perceived as an integrated curricular area for the entire primary stage. The syllabus is woven around six common themes close to the child's life such as family and friends, food, shelter, water, travel, and things we make and do. The matrix of each theme contains leading concepts and also suggested resources and activities. However, in Classes I and II, EVS components are integrated with language and Mathematics.

Sciences for upper primary stage have been built around seven core themes – food, material, the world of the living, moving things people and ideas, how things work, natural phenomena, and natural resources. While integrating assessment into learning process, it emphasises on a learner-friendly approach in the development of instructional materials. The same themes are dealt at deeper levels at secondary stage. The shift from knowledge transmission to active participation of learner in the construction of knowledge is strikingly visible. In fact, the syllabi progress in a linear fashion. At senior secondary stage, the syllabus takes a disciplinary route. Built on the ideas introduced at lower levels, the syllabus introduces the contemporary areas of Biology stressing on connections of study of Biology to real life problems covering use of discoveries/innovations in everyday life – in environment, industry, medicine, health and agriculture. It unfolds the underlying principles that are common to both animals and plants, as well as the inter-relationships of Biology with other areas of knowledge. Both Physics and Chemistry syllabi aim at building a foundation for disciplinary rigour. The new syllabi permit clear and sequential flow of concepts without jarring jumps.

In the social sciences, the syllabi centre on activities and projects, which would help learners to understand society and its institutions, change and development. The social sciences components are reflected in the environmental studies at primary stage. At the upper primary level subjects like History and Geography provide inputs to the child's growing grasp of socio-economic and political institutions and impart to children the ability to probe and explore. At the secondary level, greater emphasis has been given to thematic study with an eye to the disciplines of History, Geography, Political Science and Economics through which social science perspectives have evolved. Themes and details are structured in a form that seeks learners active engagement in classroom processes and clarify the issues that take shape in contemporary society. At higher secondary stage,





the syllabus provides for deeper engagement with disciplines covering specific skills. The new textbooks based on these syllabi will equip children with the cognitive means to study evidence and data so that they can make sense of issues and debates facing society.

Following past convention, NCERT will bring out the textbooks based on the new syllabi in three phases. The first phase will begin in April 2006, covering Classes I, III, VI, IX and XI. Phase two, beginning in April 2007 will cover Classes II, IV, VII, X and XII. The final or third phase will cover Classes V and VIII in 2008. The new syllabi has been placed on NCERT's website ([www.ncert.nic.in](http://www.ncert.nic.in)). Syllabi for Art Education and Health and Physical Education shall be announced very shortly.

Science (Classes IX-X)	1
Chemistry (Classes XI-XII)	2
Physics (Classes XI-XII)	3
Biology (Classes XI-XII)	4
Mathematics (Classes IX-XII)	5
Social Science (Classes IX-X)	6
History (Classes IX-X)	7
Geography (Classes IX-X)	8
Political Science (Classes IX-X)	9
Economics (Classes IX-X)	10
History (Classes XI-XII)	11
Geography (Classes XI-XII)	12
Political Science (Classes XI-XII)	13
Economics (Classes XI-XII)	14
Sociology (Classes XI-XII)	15
Psychology (Classes XI-XII)	16
Business Studies (Classes XI-XII)	17
Accountancy (Classes XI-XII)	18
Language - English	19
English (Classes IX-XII)	20
Hindi (IX)	21
Hindi (XII)	22



# CONTENTS

FOREWORD	iii
PREAMBLE	v
Science (Classes IX-X)	1
Chemistry (Classes XI-XII)	22
Physics (Classes XI-XII)	33
Biology (Classes XI-XII)	44
Mathematics (Classes IX-XII)	57
Social Science (Classes IX-X)	74
History (Classes IX-X)	77
Geography (Classes IX-X)	81
Political Science (Classes IX-X)	85
Economics (Classes IX-X)	88
History (Classes XI-XII)	93
Geography (Classes XI-XII)	101
Political Science (Classes XI-XII)	107
Economics (Classes XI-XII)	114
Sociology (Classes XI-XII)	120
Psychology (Classes XI-XII)	125
Business Studies (Classes XI-XII)	129
Accountancy (Classes XI-XII)	136
Language - English	142
English (Classes IX-XII)	149
भाषा-हिंदी	161
हिंदी (कक्षा 9-10)	170



हिंदी (कक्षा 11-12)

संस्कृत (कक्षा 9-10)

संस्कृत (कक्षा 11-12)

ज़बान-उर्दू

उर्दू (कक्षा 9-12)

176

182

188

205

214

FOREWORD

PREFACE

Science (Classes IX-X)

Chemistry (Classes XI-XII)

Physics (Classes XI-XII)

Biology (Classes XI-XII)

Mathematics (Classes IX-XII)

Social Science (Classes IX-X)

History (Classes IX-X)

Geography (Classes IX-X)

Political Science (Classes IX-X)

Economics (Classes IX-X)

History (Classes XI-XII)

Geography (Classes XI-XII)

Political Science (Classes XI-XII)

Economics (Classes XI-XII)

Sociology (Classes XI-XII)

Psychology (Classes XI-XII)

Business Studies (Classes XI-XII)

Accountancy (Classes XI-XII)

Language - English

English (Classes IX-XII)

सामाजिक विज्ञान

हिंदी (कक्षा 9-10)



# SCIENCE

(CLASSES IX–X)

## Rationale

The exercise of revising the syllabus for science and technology has been carried out with “Learning without burden” as a guiding light and the position papers of the National Focus Groups as points of reference. The aim is to make the syllabus an enabling document for the creation of textbooks that are interesting and challenging without being loaded with factual information. Overall, science has to be presented as a live and growing body of knowledge rather than a finished product.

Very often, syllabi – especially those in science – tend to be at once overspecified and underspecified. They are overspecified in that they attempt to enumerate items of content knowledge which could easily have been left open, e.g., in listing the families of flowering plants that are to be studied. They are underspecified because the listing of ‘topics’ by keywords such as ‘Reflection’ fails to define the intended breadth and depth of coverage. Thus there is a need to change the way in which a syllabus is presented.

The position paper on the teaching of science – supported by a large body of research on science education – recommends a pedagogy that is hands-on and inquiry-based. While this is widely accepted at the idea level, practice in India has tended to be dominated by chalk and talk methods. To make in any progress in the desired direction, some changes have to be made at the level of the syllabus. In a hands-on way of learning science, we start with things that are directly related to the child’s experience, and are therefore specific. From this we progress to the general. This means that ‘topics’ have to be reordered to reflect this. An example is the notion of electric current. If we think in an abstract way, current consists of charges in motion, so we may feel it should be treated at a late stage, only when the child is comfortable with ‘charge’. But once we adopt a hands-on approach, we see that children can easily make simple electrical circuits, and study several aspects of ‘current’, while postponing making the connection with ‘charge’.

Some indication of the activities that could go into the development of a ‘topic’ would make the syllabus a useful document. Importantly, there has to be adequate time for carrying out activities, followed by discussion. The learner also needs time to reflect on the classroom experience. This is possible only if the content load is reduced substantially, say by 20-25%.

Children are naturally curious. Given the freedom, they often interact and experiment with things around them for extended periods. These are valuable learning experiences, which are



essential for imbibing the spirit of scientific inquiry, but may not always conform to adult expectations. It is important that any programme of study give children the needed space, and not tie them down with constraints of a long list of 'topics' waiting to be 'covered'. Denying them this opportunity may amount to killing their spirit of inquiry. To repeat an oft-quoted saying: "It is better to uncover a little than to cover a lot." Our ultimate aim is to help children learn to become autonomous learners.

## Themes and Format

There is general agreement that science content up to Class X should not be framed along disciplinary lines, but rather organised around themes that are potentially cross-disciplinary in nature. In the present revision exercise, it was decided that the same set of themes would be used, right from Class VI to Class X. The themes finally chosen are: Food; Materials; The world of the living; How things work; Moving things; People and ideas; Natural phenomena and Natural resources. While these run all through, in the higher classes there is a consolidation of content which leads to some themes being absent, e.g. Food from Class X.

The themes are largely self-explanatory and close to those adopted in the 2000 syllabus for Classes VI-VIII; nevertheless, some comments may be useful. In the primary classes, the 'science' content appears as part of EVS, and the themes are largely based on the children's immediate surroundings and needs: Food, Water, Shelter etc. In order to maintain some continuity between Classes V and VI, these should naturally continue into the seven themes listed above. For example, the Water theme evolves into Natural resources (in which water continues to be a sub theme) as the child's horizon gradually expands. Similarly, Shelter evolves into Habitat, which is subsumed in The world of the living. Such considerations also suggest how the content under specific themes could be structured. Thus clothing, a basic human need, forms the starting point for the study of Materials. It will be noted that this yields a structure which is different from that based on disciplinary considerations, in which materials are viewed purely from the perspective of chemistry, rather than from the viewpoint of the child. Our attempt to put ourselves in the place of the child leads to 'motion', 'transport' and 'communication' being treated together as parts of a single theme: Moving things, people and ideas. More generally, the choice of themes – and sub themes – reflects the thrust towards weakening disciplinary boundaries that is one of the central concerns of NCF-2005.

The format of the syllabus has been evolved to address the underspecification mentioned above. Instead of merely listing 'topics', the syllabus is presented in four columns: Questions, Key concepts, Resources and Activities/Processes.

Perhaps the most unusual feature of the syllabus is that it starts with questions rather than concepts. These are key questions, which are meant to provide points of entry for the child to start the process of thinking. A few are actually children's queries ("How do clouds form?"), but the majority are questions posed by the adult to support and facilitate learning (provide 'scaffolding', in the language of social constructivism). It should be clarified here that these questions are not meant to be used for evaluation or even directly used in textbooks.





Along with the questions, key concepts are listed. As the name suggests, these are those concepts which are of a key nature. Once we accept that concept development is a complex process, we must necessarily abandon the notion that acquisition of a specific concept will be the outcome of any single classroom transaction, whether it is a lecture or an activity. A number of concepts may get touched upon in the course of transaction. It is not necessary to list all of them.

The columns of Resources and Activities/Processes are meant to be of a suggestive nature, for both teachers and textbook writers. The Resources column lists not only concrete materials that may be needed in the classroom, but a variety of other resources, including out-of-class experiences of children as well as other people. Historical accounts and other narratives are also listed, in keeping with the current understanding that narratives can play an important role in teaching science. The Activities column lists experiments, as normally understood in the context of science, as well as other classroom processes in which children may be actively engaged, including discussion. Of course, when we teach science in a hands-on way, activities are not add-ons; they are integral to the development of the subject. Most experiments/activities would have to be carried out by children in groups. Suggestions for field trips and surveys are also listed here. Although the items in this column are suggestive, they are meant to give an idea of the unfolding of the content. Read together with the questions and key concepts, they delineate the breadth and depth of coverage expected.

### **The Secondary Stage**

At the secondary stage, abstraction and quantitative reasoning come to occupy a more central place than in the lower classes. Thus the idea of atoms and molecules being the building blocks of matter makes its appearance, as does Newton's law of gravitation.

One of the traps which we have to avoid is the attempt to be comprehensive. While the temptation exists even in lower classes, at the secondary stage it is particularly strong. This may manifest itself in two ways: adding many more concepts than can be comfortably learnt in the given time frame, and enumeration of things or types of things, even where there is no strong conceptual basis for classification. Thus we may end up with a mass of information that the child has to perforce memorise. An example is the listing of nine types of glass. In the present revision, no attempt is made to be comprehensive. Unnecessary enumeration is avoided. The processes by which factual knowledge can be acquired is more important than the facts themselves.

At this stage, while science is still a common subject, the disciplines of physics, chemistry and biology are beginning to emerge. The child should be exposed to experiences as well as modes of reasoning that are typical of these subjects, while continuing to be encouraged to look at things across disciplinary boundaries. This stage also sees a certain consolidation of knowledge within themes. As a result, a theme may get a lot of space in one class (e.g. How things work in Class X) while being absent from the other.



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
<b>1. Food</b>				
Higher yields	What do we do to get higher yields in our farms?	Plant and animal breeding and selection for quality improvement, use of fertilizers, manures; protection from pests and diseases; organic farming.	Visit to any fish/bee/dairy/pig etc farms; data showing harmful effects of insecticides; process for the preparation of compost, vermi-compost.	Collection of weeds found in fields of different crops; collection of diseased crops; discussion and studying composting/vermi-composting (Periods 8)
<b>2. Materials</b>				
Material in our clothing	What kinds of clothes help us keep cool? Why do wet clothes feel cool?	Cooling by evaporation. Absorption of heat.	Work done in Class VII; glassware, heat source, black paper, thermometers.	Experiments to show cooling by evaporation. Experiments to show that the white objects get less hot. (Periods 5)
Different kinds of materials	In what way are materials different from each other? Is there some similarity in materials?  In how many ways can you group the different materials you see around? How do solids, liquids and gases	All things occupy space, possess mass. Definition of matter.  Solid, liquid and gas; characteristics – shape, volume, density; change of state – melting, freezing,	Everyday substances like wood, salt, paper, ice, steel, water, etc.  Wax, water, ice, oil, sugar, camphor/ ammonium chloride/ naphthalene.	To feel the texture, observe the colour and lustre, effect of air, water and heat, etc. on each of the materials (Periods 4)  Sorting out a medley of materials, in various ways. Observe shape and physical state of different materials.



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	<p>differ from each other?</p> <p>Can materials exist in all the three states?</p>	<p>evaporation, condensation, sublimation.</p>		<p>Observe effect of heat on each of the resources. (Teacher to perform the experiment for camphor, ammonium chloride and naphthalene.)</p> <p>(Periods 4)</p>
What are things made of?	<p>What are things around you made of?</p> <p>What are the various types of chemical substances?</p>	<p>Elements, compounds and mixtures.</p> <p>Heterogeneous and homogeneous mixtures. Colloids and suspensions.</p>	<p>Samples of commonly available elements, compounds and mixtures. Samples of solution, suspension and colloid.</p>	<p>Discussion on claims 'Air is a mixture' (Mixture of what? How can these be separated?), 'Water is compound' and 'Oxygen is an element'.</p>
	<p>Do substances combine in a definite manner?</p>	<p>Equivalence – that x grams of A is chemically not equal to x grams of B.</p>	<p>Historical accounts. Glassware, chemicals (oxalic acid, sodium hydroxide, magnesium ribbon).</p>	<p>Titration using droppers or syringes, quantitative experiments.</p>
	<p>How do things combine with each other?</p> <p>Are there any patterns which can help us guess how things will combine with each other?</p>	<p>Particle nature, basic units: atoms and molecules.</p> <p>Law of constant proportions. Atomic and molecular masses.</p>	<p>Kits for making molecular models.</p> <p>Historical account including experiments of Lavoisier and Priestley.</p>	<p>Discussion on the fact that elements combine in a fixed proportion through discussion on chemical formulae of familiar compounds.</p>



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	How do chemists weigh and count particles of matter?	Mole concept. Relationship of mole to mass of the particles and numbers. Valency. Chemical formulae of common compounds.		Simple numericals to be done by the students. A game for writing formulae. e.g. criss crossing of valencies to be taught through dividing students into pairs. Each student to hold two placards: one with the symbol and the other with the valency. Keeping symbols in place, teacher to move only valencies to form the formula of a compound.
	What is there inside an atom?	Can we see an atom or a molecule under a microscope or by some other means? What is there inside an atom?	Atoms are made up of smaller particles: electrons, protons, and neutrons. These smaller particles are present in all the atoms but their numbers vary in different atoms. Isotopes and isobars.	Charts, films etc. Brief historical account of Rutherford's experiment. (Periods 18)
<b>3. The World of the Living</b>				
Biological Diversity	How do the various plants around us	Diversity of plants and animals – basic	Specimens of some animals, and plants	Discussion on diversity and the



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	<p>differ from each other? How are they similar?</p> <p>What about animals? How are they similar to and different from each other?</p>	<p>issues in scientific naming, Basis of classification,</p> <p>Hierarchy of categories/groups,</p> <p>Major groups of plants (salient features) (Bacteria, Thallophyta, Bryophyta, Pteridophyta, Gymnosperms and Angiosperms).</p> <p>Major groups of animals (salient features) (Non-chordates up to phyla and Chordates up to classes).</p>	<p>not easily observable around you.</p>	<p>characteristics associated with any group.</p> <p>(Periods 14)</p>
<p>What is the living being made up of?</p>	<p>What are we made up of?</p> <p>What are the different parts of our body? What is the smallest living unit?</p>	<p>Cell as a basic unit of life; Prokaryotic and eukaryotic cells, multicellular organisms; cell membrane and cell wall, cell organelles: chloroplast, mitochondria, vacuoles, ER, Golgi Apparatus; nucleus, chromosomes – basic structure, number.</p> <p>Tissues, organs, organ systems, organism.</p>	<p>Permanent slides, model of the human body.</p>	<p>Observation of model of human body to learn about levels of organization – tissue, organ, system, and organism, observe blood smears (frog and human), cheek cells, onion peel cell, Spirogyra, Hydrilla leaves (cyclosis).</p> <p>(Periods 12)</p>



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
		Structure and functions of animal and plant tissues (four types in animals; meristematic and permanent tissues in plants).		
How do we fall sick?	<p>What are the various causes of diseases?</p> <p>How can diseases be prevented?</p> <p>How can we remain healthy?</p>	<p>Health and its failure.</p> <p>Disease and its causes.</p> <p>Diseases caused by microbes and their prevention – Typhoid, diarrhoea, malaria, hepatitis, rabies, AIDS, TB, polio; pulse polio programme.</p>	<p>Newspaper articles, information from health centres, photographs of various causal organisms.</p> <p>Photographs, permanent slides of bacteria.</p>	<p>Surveying neighbourhood to collect information on disease occurrence pattern.</p> <p>Studying the life cycle of the mosquito and malarial parasite.</p> <p>Discussion on how malaria is spread, how to prevent mosquito breeding.</p> <p>(Periods 10)</p>
How do substances move from cell to cell?	<p>How do food and water move from cell to cell?</p> <p>How do gases get into the cells?</p> <p>What are the substances that living organisms exchange with the external world?</p> <p>How do they obtain these substances?</p>	<p>Diffusion/exchange of substances between cells and their environment, and between the cells themselves in the living system; role in nutrition, water and food transport, excretion, gaseous exchange.</p>	<p>Egg membrane, <i>Rhoeo</i> leaves, sugar, microscope, slides.</p>	<p>Looking at closed and open stomata, plasmolysis in <i>Rhoeo</i> leaf peels.</p> <p>(Periods 15)</p>



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
4. Moving Things, People and Ideas				
Motion	How do we describe motion?	Motion – displacement, velocity; uniform and non-uniform motion along a straight line, acceleration, distance-time and velocity time graphs for uniform and uniformly accelerated motion, equations of motion by graphical method; elementary idea of uniform circular motion.		Analysis of motion of different common objects. Drawing distance-time and velocity-time graphs for uniform motion and for uniformly accelerated motion. (Periods 12)
Force and Newton's laws	What makes things change their state of motion?	Force and motion, Newton's laws of motion: inertia of a body, inertia and mass, momentum, force and acceleration. Elementary idea of conservation of momentum, action and reaction forces.	Historical accounts; Experiences from daily life; wooden and glass boards, sand, balls; wooden support, some coins (say of Rs. 2 or Rs. 5); tumbler; balloons etc.	Demonstrating the effect of force on the state of motion of objects in a variety of daily-life situations. Demonstrate the change in direction of motion of an object by applying force. (Periods 10)
Gravitation	What makes things fall?	Gravitation; universal law of gravitation,	Spring balance	Analysis of motion of ball falling down



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	Do all things fall in the same way?	force of gravitation of the earth (gravity), acceleration due to gravity; mass and weight; free fall.		and of ball thrown up. Measuring mass and weight by a spring balance. (Periods 7)
Work, energy and power	How do we measure work done in moving anything? How does falling water make a mill run?	Work done by a force, energy, power; kinetic and potential energy; law of conservation of energy.	Rope (or string), board or plank, wooden block, ball, arrow, bamboo stick, spring, etc.	Experiments on body rolling down inclined plane pushing another body. Experiments with pendulum. Experiments with spring. Discussion. (Periods 6)
Floating bodies	How does a boat float on water?	Thrust and pressure. Archimedes' principle, buoyancy, elementary idea of relative density.	Cycle pump; board pins, bulletin board, mug, bucket, water etc.	Experiments with floating and sinking objects. (Periods 4)
How do we hear from a distance?	How does sound travel? What kind of sounds can we hear? What is an echo? How do we hear?	Nature of sound and its propagation in various media, speed of sound, range of hearing in humans; ultrasound; reflection of sound; echo and sonar. Structure of the human ear (auditory aspect only).	String, ball or stone as bob, water tank, stick, slinky, rope, echo tube, rubber pipe etc. Model or chart showing structure of the ear.	Experiment on reflection of sound. (Periods 10)



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
5. How Things Work 6. Natural Phenomena 7. Natural Resources				
Balance in Nature	Why do air, water and soil seem not to be consumed? How does the presence of air support life on earth? How have human activities created disturbances in the atmosphere? How does nature work to maintain balance of its components?	Physical resources: air, water, soil. Air for respiration, for combustion, for moderating temp- eratures, movements of air and its role in bringing rains across India. Air, water and soil pollution (brief introduction). Holes in ozone layer and the probable damages. Bio-geo chemical cycles in nature: water, oxygen, carbon, nitrogen.	Daily newspapers, magazines and other reading materials. Weather reports over a few months and air quality reports over the same time period. Case study material.	Case studies of actual situation in India with more generalised overview of inter relationship of air, water, soils, forests. Debates on these issues using resources mentioned alongside, visit to/ from an environmental NGO; discussion. (Periods 15)

## SCIENCE CLASS X

Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
1. Food 2. Materials Different kinds of materials	Why are some substances sour and some bitter in taste?	Acids, bases and salts: General properties, examples and uses.	Orange juice, lemon juice, soap solution, litmus solution, zinc,	Testing different substances with indicators.





Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	<p>Why does soap solution feel slippery?</p> <p>Why does seawater taste salty?</p>		<p>copper and aluminium metals.</p> <p>Acids: hydrochloric acid, sulphuric acid, nitric acid. Bases: sodium hydroxide. Common salt.</p>	<p>Neutralisation reactions</p> <p>(Periods 5)</p>
	<p>Why does iron rust?</p> <p>Why does painted iron not rust?</p> <p>Why is burning sensation removed when one takes antacids?</p> <p>Why do substances stop burning in the absence of air?</p> <p>Why is flame seen when substances burn?</p> <p>Can substances burn without flame?</p> <p>Why does a matchstick kept in the blue part of the flame not burn?</p> <p>Why is a red coating formed on the zinc rod when it is kept in copper sulphate solution?</p> <p>What is the material of the coating?</p>	<p>Types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralisation, oxidation and reduction in terms of gain and loss of oxygen and hydrogen.</p>	<p>Turmeric, limejuice, vinegar, baking soda, washing soda, yeast, hot water.</p> <p>Materials such as iron nails, copper strip, aluminium strip, zinc strip, galvanised strip, petri dishes with and without covers, container that can be filled with water, cotton wool, etc.</p>	<p>Mixing pairs of substances mentioned alongside, to see the reactions – discussion on chemistry in the kitchen, chemistry inside our bodies.</p> <p>Carrying out simple reactions that encompass decomposition, displacement, double displacement, precipitation, neutralisation, oxidation and reduction.</p> <p>(Periods 10)</p>



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
How things change/react with one another.?	How do copper, silver, iron exist in nature?	Brief discussion of basic metallurgical processes. Properties of common metals. Elementary idea about bonding.	Samples of metals: iron, copper, lead, silver, zinc, aluminium, gold; of non-metals: sulphur, graphite; of alloys: steel, brass	Discussions on metallurgical processes and simple experiments involving metals, with chemical reactions.
	What is the composition of natural gas used for cooking? What is petrol? What is vinegar?	Carbon compounds, elementary idea about bonding. Saturated hydrocarbons, alcohols, carboxylic acids: (no preparation, only properties).	Models	Experiments involving reactions of carbon and its compounds with chemical reactions. Use of models. (Periods 16)
Materials of common use	How is common salt obtained? Besides its use in food, is it used for other purposes? What makes washing soda and baking soda different materials? How does bleaching powder make paper and cloth white? What is the white material that is used for making casts? How do soaps clean clothes? Can some other	Soap – cleansing action of soap.	Kit containing various materials like common salt, washing soda, baking soda, lime, lime stone, bleaching powder, plaster of Paris, soaps; alcohol.	Use of kit materials for demonstration as well as performing of experiments by student of properties. Visits to factories. (Periods 8)



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	<p>material be used for cleaning clothes?</p> <p>Why does a man lose control on his body after drinking alcohol?</p> <p>Why do people become blind on drinking denatured alcohol?</p>			
How are elements classified?	How do chemists study such a large number of elements?	Gradations in properties: Mendeleev periodic table.	Brief historical account, charts, films etc.	Predicting trends on the basis of the table. (Periods 5)
<b>3. The World of the Living</b>				
Our Environment	<p>What will happen if we bury different materials in the soil?</p> <p>What will happen if we kill all insects?</p> <p>Some of us eat meat; some do not – what about animals?</p>	Our Environment: Environmental problems, what can we do? Bio degradable, non-biodegradable. Ozone depletion.	Discussion on food habits of animals, finding out the various waste materials produced and their disposal in different parts of the country.	Activity of burying different materials in the soil and studying periodically what happens; construction of food web using models, classification of some common plants and animals as consumers etc. (Periods 8)
How do we stay alive?	What are the processes needed for living?	Define 'living' things; Basic concept of nutrition, respiration, transport and excretion in plants and animals.	Models and charts of various systems in animals, and parts in plants.	Study various things around to decide whether they are living/non living. (Periods 15)



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
Control in the living	Why do roots grow towards the ground? Can we make them grow upwards? Why do stems grow upwards?	Tropic movements in plants; Introduction to plant hormones; Control and coordination in animals: voluntary, involuntary and reflex action, nervous system; chemical coordination: animal hormones.	Young plants for experiments, seeds; Kit materials; Pavlov's experiment on conditioned reflex.	Experiments on tropic movements in plants – geotropism, hydrotropism, phototropism, interaction of factors; experiment on apical dominance; demonstration of reflex action. (Periods 10)
Reproduction in the living	Do plants and animals have similar reproductive cycles? Can we decide how many children are born in a family?	Reproduction in plants and animals. Need for and methods of family planning. Safe sex vs. HIV/AIDS. Childbearing and women's health.	Permanent slide L.S. grain; charts/specimens of embryos, egg. Charts and other materials on family planning. Newspaper reports on HIV/AIDS.	Study pollen tube growth and pollen tubes on a stigmatic mount, mount soaked seeds to see embryonal axis, cotyledons etc., seed germination – epigeal and hypogeal; structure of the hen's egg. Discussion on family planning and responsible parenting. (Periods 10)
Heredity and evolution	Why are we like our parents? Did similar plants and animals exist in the past? Did life always exist?	Heredity; Origin of life: brief introduction; Basic concepts of evolution.	Data and worksheet from Mendel's experiments, specimen of fossil.	Phenotypic ratio 3:1, 2:1, 9:3:3:1 (Periods 10)



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
4. Moving Things, People and Ideas 5. How things work				
Electric Circuits	In which direction does current flow inside a conductor?	Potential difference, potential.	Battery, conductor voltmeter, ammeter, connecting wire, key.	Using a simple electric circuit, show that charges flow from higher potential to lower potential. Use the analogy of flow of water from higher (potential to highest energy) lower height (lower potential energy).
	How is potential difference across a conductor related to current through the conductor?	Ohm's law	-do- And rheostats	Using a circuit consisting of a conductor, battery, key, voltmeter and ammeter, establish a relationship between potential difference and current and hence Ohm's law.
	How can you arrange a given set of resistors so that the same current flows through all?	Series combination of resistances.	-do- and given set of resistors.	Using the Ohm's law circuit, establishing the properties of series combination and the rule for resistance.



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
Magnets	How are appliances connected in a house?	Parallel combination of resistances.	-do- and given set of resistors.	Establishing the rule for parallel combination of resistors.
	How much heat is generated when a current $I$ flows through a resistor?	Power dissipated due to current. Inter relation between $P$ , $V$ , $I$ and $R$ .	Appliances based on heating effect of current in daily life.	Identification of appliances in daily life base on heating effect of current. Calculation of power in daily life situations. (Periods 12)
	How does the needle of a compass change direction when placed at different points near a magnet?	Magnetic field Field lines	A magnet, compass, white sheet, drawing board, drawing pins.	Drawing magnetic field lines in vicinity of a bar magnet.
	Does a current carrying conductor produce a magnetic field?	Field due to a current carrying wire. Field due to current carrying coil or solenoid.	A battery, a conductor, compass, key, A coil, A solenoid.	Demonstrating that a current carrying conductor produces a magnetic field. Demonstrating the magnetic field produced by a current carrying coil or solenoid.
	What happens to a current carrying conductor when it is placed in a magnetic field?	Force on current carrying conductor Fleming's left hand rule.	A small rod, stand and two wires for suspending the rod, a strong horseshoe magnet.	Demonstrating that a current carrying conductor when placed in a magnetic field experiences force.



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	How does the above effect help us to design machines to do work?	Electric motor.	Appliances using motors.	Demonstrating the working of a motor. Identifying the appliances based on electric motors.
	What do you observe when a magnet is moved towards a wire connected to a galvanometer?	Electromagnetic induction.  Induced potential differences, induced current.	Two coils of wire, a magnet, a galvanometer.  Iron nails, battery, switch.	Demonstrating the phenomenon of electromagnetic induction. Demonstrating that current is induced in a coil kept near a coil in which current changes.
	How can the phenomenon of electromagnetic induction be used to design a device to generate electricity?	Electric generator. principle and working.	A simple model of electric generator.	Demonstrating the principle and working of a generator.
	Does the current produced by a generator have the same direction all the time?	Direct current. Alternating current; frequency of AC. Advantage of AC over DC.	Model of electric generator.	Familiarising with voltage and frequency of AC in our homes.
	How are the bulbs etc. connected to the AC source in our homes?	Domestic electric circuits.	Demonstration board for domestic electric circuit.	Explaining the working of domestic electric circuits. Demonstrating the



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
6. Natural Phenomena	<p>Why is paper burnt when light passing through a lens strikes it?</p> <p>Does a spherical mirror also exhibit similar phenomenon?</p> <p>Can we see a full image of a tall building using a small mirror?</p> <p>Why does a spoon partly immersed in water in a transparent glass appear broken at the level of water when viewed from the sides?</p> <p>What do lenses do? How do they correct defects in vision?</p>	<p>Convergence and divergence of light.</p> <p>Images formed by a concave mirror; related concepts centre of curvature, principal axis. Optical centre, focus, focal length.</p> <p>Refraction; laws of refraction.</p> <p>Images formed by a convex lens; functioning of lens in human eye; problems of vision and remedies.</p>	<p>Experience. Double convex lens.</p> <p>A candle, stand to hold a mirror, meter scale.</p> <p>Glass slab, pins.</p> <p>Convex lens.</p>	<p>use of a fuse in domestic circuit. (Periods 12)</p> <p>Observation of convergence and divergence with lenses.</p> <p>Exploring and recording features of images formed by a concave mirror, by placing an object beyond c.c., between c.c. and focus, and between pole and focus; ray diagrams.</p> <p>Activity to explore laws of refraction.</p> <p>Activity exploring and recording features of images formed by convex lens. Ray diagrams. Studying the glasses used by</p>



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
		Application of spherical mirrors and lenses.		human beings to correct different vision defects.
	Why does the path of light change on entering a different medium?	Appreciation of concept of refraction; velocity of light; refractive index; twinkling of stars; dispersion of light.	Concepts learnt earlier.	Activities studying refraction.
	Why or how does a prism disperse light?	Dispersion of light.	Prism, pins.	Observation of objects through prisms; tracing rays refracted through a prism; discussion.
	Why is the sky blue?	Scattering of light.	Observations and experience.	Activity showing scattering of light in emulsion etc. (Periods 25)
<b>7. Natural Resources</b>				
Conservation of Natural Resources	How can we contribute to protect environment in our locality? What are the major global environmental issues of direct relevance to us?	Management of natural resources. Conservation and judicious use of natural resources. Forest and wild life, coal and petroleum conservation.	Articles/stories on conservation; Posters on environmental awareness.	Case studies with focus on commercial activities exploiting natural resources. Effect of these on varies cycles in natures.



Theme/ Sub-theme	Questions	Key concepts	Resources	Activities/ Processes
	What are the steps expected on the part of local administration to maintain balances in nature in your region? How can we help?	People's participation. Chipko movement. Legal perspectives in conservation and international scenario.	Case studies on Chipko movement; CNG use.	Making posters/slogans for creating awareness.
The regional environment	How does the construction of big dams affect the life of the people and the regional environment? Are rivers, lakes, forests and wild life safe in your area?	Big dams: advantages and limitations; alternatives if any. Water harvesting. Sustainability of natural resources.	Case study material on dams. Resource material on water harvesting.	Case studies with focus on issues of construction of dams and related phenomena (actual/probable). Debates on issues involved.
Sources of energy	What are the various sources of energy we use? Are any of these sources limited? Are there reasons to prefer some of them over others?	Different forms of energy, leading to different sources for human use: fossil fuels, solar energy; biogas; wind, water and tidal energy; nuclear energy. Renewable versus non-renewable sources.	Experience; print material on various sources of energy; materials to make a solar heater.	Discussion. Making models and charts in groups. Making a solar heater/cooker. (Periods 8)

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Page No. 13277





# CHEMISTRY

## (CLASSES XI–XII)

### Rationale

Higher Secondary Stage is the most crucial stage of school education because at this stage specialised discipline based, content oriented courses are introduced. Students reach this stage after 10 years of general education and opt for Chemistry with a purpose of mostly for pursuing their career in basic sciences or professional courses like medicines, engineering, technology and studying courses in applied areas of science and technology at tertiary level. Therefore, at this stage, there is a need to provide learners with sufficient conceptual background of Chemistry, which will make them competent to meet the challenges of academic and professional courses after the higher secondary stage.

National Curriculum Framework for School Education – 2005 recommends a disciplinary approach with appropriate rigour and depth with the care that syllabus is not heavy and at the same time it is comparable to the international level. It emphasizes a coherent focus on important ideas within the discipline that are properly sequenced to optimize learning. It recommends that theoretical component of Higher Secondary Science should emphasize on problem solving methods and the awareness of historical development of key concepts of science be judiciously integrated into content. The present exercise of syllabus development in Chemistry at Higher Secondary Stage is based on this framework.

### Salient features of the present syllabus are thus:

- Some background of Chemistry from secondary stage is assumed; however, no specific knowledge of topics in Chemistry is pre-supposed.
- The course is self-contained and broadly covers fundamental concepts of Chemistry.
- Attempt has been made to see discipline of Chemistry does not remain only the science of facts but becomes related to modern applications in the world around us.
- The syllabus provides logical sequencing of the 'Units' of the subject matter with proper placement of concepts with their linkages for better understanding.
- Emphasis has been on promoting process – skills, problem solving abilities and applications of concepts of Chemistry useful in real life situation for making learning of Chemistry more relevant, meaningful and interesting.
- An effort has been made on the basis of feedback, to remove repetition besides reducing the content by suitably integrating the different content areas.
- Practical syllabus has two components. There are core experiments to be undertaken by the students in the classroom and will be part of examination while each student will carry out one investigatory project and submit the report for the examination.

With this background, the Chemistry curriculum at the higher secondary stage attempts to

- promote understanding of basic principles in Chemistry while retaining the excitement in Chemistry;
- develop an interest in students to study Chemistry as discipline;
- strengthen the concepts developed at the secondary stage and to provide firm foundation for further learning of Chemistry at tertiary level more effectively;



- develop positive scientific attitude, and appreciate contribution of Chemistry towards the improvement of quality of human life;
- develop problem solving skills and nurture curiosity, aesthetic sense and creativity;
- inculcate values of honesty, integrity, cooperation, concern for life and preservation of the environment;
- make the learner realise the interface of Chemistry with other disciplines of science such as Physics, Biology, Geology, etc;
- equip students to face challenges related to health, nutrition, environment, population, whether industries and agriculture.

## CHEMISTRY CLASS XI

### Theory

**Total Periods 180**

### Unit I: Some Basic Concepts of Chemistry

(Periods 14)

*General Introduction:* Importance and scope of chemistry.

Historical approach to particulate nature of matter, laws of chemical combination, *Dalton's atomic theory*: concept of elements, atoms and molecules.

Atomic and molecular masses. Mole concept and molar mass; percentage composition and empirical and molecular formula; chemical reactions, stoichiometry and calculations based on stoichiometry.

### Unit II: Structure of Atom

(Periods 16)

Discovery of electron, proton and neutron; atomic number, isotopes and isobars. Thompson's model and its limitations, Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of *s*, *p*, and *d* orbitals, rules for filling electrons in orbitals – Aufbau principle, Pauli exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

### Unit III: Classification of Elements and Periodicity in Properties

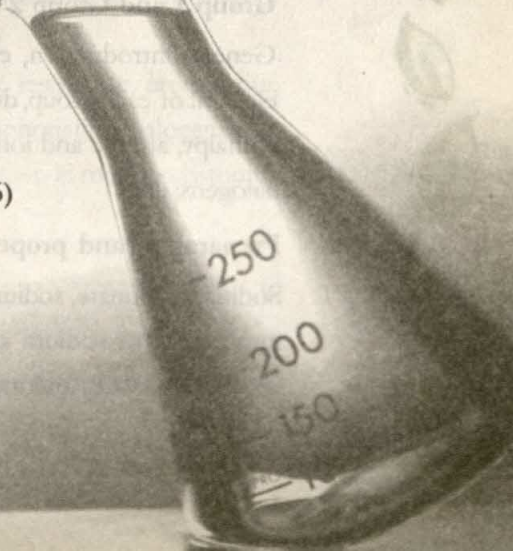
(Periods 8)

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements – atomic radii, ionic radii, inert gas radii, ionization enthalpy, electron gain enthalpy, electronegativity, valence.

### Unit IV: Chemical Bonding and Molecular Structure

(Periods 16)

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization involving *s*, *p* and *d* orbitals and shapes of some simple molecules,





molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), hydrogen bond.

### **Unit V: States of Matter: Gases and Liquids** (Periods 14)

Three states of matter, intermolecular interactions, type of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles' law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number, ideal gas equation, deviation from ideal behaviour, liquefaction of gases, critical temperature.

Liquid State – Vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations).

### **Unit VI: Thermodynamics** (Periods 16)

Concepts of system, types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.

First law of thermodynamics – internal energy and enthalpy, heat capacity and specific heat, measurement of  $\Delta U$  and  $\Delta H$ , Hess's law of constant heat summation, enthalpy of: bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, and dilution.

Introduction of entropy as a state function, free energy change for spontaneous and non-spontaneous process, equilibrium.

### **Unit VII: Equilibrium** (Periods 16)

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium – Le Chatelier's principle; ionic equilibrium – ionization of acids and bases, strong and weak electrolytes, degree of ionization, concept of pH. Hydrolysis of salts (elementary idea), buffer solutions, solubility product, common ion effect (with illustrative examples).

### **Unit VIII: Redox Reactions** (Periods 6)

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, applications of redox reactions.

### **Unit IX: Hydrogen** (Periods 8)

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen; hydrides – ionic, covalent and interstitial; physical and chemical properties of water, heavy water; hydrogen peroxide – preparation, reactions and structure; hydrogen as a fuel.

### **Unit X: s-Block Elements (Alkali and Alkaline Earth Metals)** (Periods 14)

#### **Group 1 and Group 2 elements:**

General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens; uses.

#### **Preparation and properties of some important compounds:**

Sodium carbonate, sodium chloride, sodium hydroxide and sodium hydrogen carbonate, biological importance of sodium and potassium.

$\text{CaO}$ ,  $\text{CaCO}_3$ , and industrial use of lime and limestone, biological importance of Mg and Ca.





## Unit XI: Some p-Block Elements

(Periods 16)

### General Introduction to p-Block Elements

*Group 13 elements:* General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group; Boron – physical and chemical properties, some important compounds: borax, boric acids, boron hydrides. Aluminium: uses, reactions with acids and alkalis.

*Group 14 elements:* General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first element. Carbon – catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides.

Important compounds of silicon and a few uses: silicon tetrachloride, silicones, silicates and zeolites.

## Unit XII: Organic Chemistry – Some Basic Principles and Techniques

(Periods 14)

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds.

Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation.

Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions; electrophiles and nucleophiles, types of organic reactions

## Unit XIII: Hydrocarbons

(Periods 16)

### Classification of hydrocarbons

*Alkanes:* Nomenclature, isomerism, conformations (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.

*Alkenes:* Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation; chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

*Alkynes:* Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of – hydrogen, halogens, hydrogen halides and water.

*Aromatic hydrocarbons:* Introduction, IUPAC nomenclature; Benzene: resonance, aromaticity; chemical properties: mechanism of electrophilic substitution – nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation; directive influence of functional group in mono-substituted benzene; carcinogenicity and toxicity.

## Unit XIV: Environmental Chemistry

(Periods 6)

*Environmental pollution:* Air, water and soil pollution, chemical reactions in atmosphere, smogs, major atmospheric pollutants; acid rain, ozone and its reactions, effects of depletion of ozone



layer, greenhouse effect and global warming – pollution due to industrial wastes; green chemistry as an alternative tool for reducing pollution, strategy for control of environmental pollution.

## Practicals

**Total Periods 60**

Micro-chemical methods are available for several of the practical experiments. Wherever possible such techniques should be used.

### A. Basic Laboratory Techniques

(Periods 2)

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

### B. Characterisation and Purification of Chemical Substance

(Periods 6)

1. Determination of melting point of organic compound.
2. Determination of boiling point of organic compound.
3. Crystallization involving impure sample of any one of the following: Alum, Copper sulphate, Benzoic acid.

### C. Experiments Related to pH Change

(Periods 6)

- (a) Any one of the following experiments:
- Determination of pH of some solutions obtained from fruit juices, solutions of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
  - Comparing the pH of solutions of strong and weak acid of same concentration.
  - Study the pH change in the titration of a strong acid with a strong base using universal indicator.
- (b) Study of pH change by common-ion effect in case of weak acids and weak bases.

### D. Chemical Equilibrium

(Periods 4)

One of the following experiments:

- (a) Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either ions.
- (b) Study the shift in equilibrium between  $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$  and chloride ions by changing the concentration of either of the ions.

### E. Quantitative Estimation

(Periods 16)

- Using a chemical balance.
- Preparation of standard solution of oxalic acid.
- Determination of strength of a given solution of sodium hydroxide by titrating it against standard solution of oxalic acid.
- Preparation of standard solution of sodium carbonate.



- Determination of strength of a given solution of hydrochloric acid by titrating it against standard sodium carbonate solution.

## F. Qualitative Analysis

(Periods 16)

Determination of one anion and one cation in a given salt

Cations –  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$

Anions –  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_3^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_2^-$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{CH}_3\text{COO}^-$

(Note : Insoluble salts excluded)

## Project

(Periods 10)

Scientific investigations involving laboratory testing and collecting information from other sources.

## A few suggested projects

- Checking the bacterial contamination in drinking water by testing sulphide ions.
- Study of the methods of purification of water.
- Testing the hardness, presence of iron, fluoride, chloride etc. depending upon the regional variation in drinking water and the study of causes of presences of these ions above permissible limit (if any)
- Investigation of the foaming capacity of different washing soaps and the effect of addition of sodium carbonate on them.
- Study of the acidity of different samples of the tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study of the effect of acids and bases on the tensile strength of fibers.
- Analysis of fruit and vegetable juices for their acidity.

**Note:** Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

# CHEMISTRY CLASS XII

## Theory

Total Periods 60 <sup>180</sup>

### Unit I: Solid State

(Periods 12)

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties.



## Unit II: Solutions

(Periods 12)

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties – relative lowering of vapour pressure, elevation of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass.

## Unit III: Electrochemistry

(Periods 14)

Redox reactions; conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell – electrolytic cells and Galvanic cells; lead accumulator, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, fuel cells; corrosion.

## Unit IV: Chemical Kinetics

(Periods 12)

Rate of a reaction (average and instantaneous), factors affecting rates of reaction: concentration, temperature, catalyst; order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment).

## Unit V: Surface Chemistry

(Periods 8)

*Adsorption:* Physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis: homogenous and heterogeneous, activity and selectivity: enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophilic, lyophobic multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsions – types of emulsions.

## Unit VI: General Principles and Processes of Isolation of Elements

(Periods 8)

*Principles and methods of extraction:* concentration, oxidation, reduction electrolytic method and refining; occurrence and principles of extraction of aluminium, copper, zinc and iron.

## Unit VII: p-Block Elements

(Periods 14)

*Group 15 elements:* General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen – preparation, properties and uses; compounds of nitrogen: preparation and properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous – allotropic forms; compounds of phosphorous: preparation and properties of phosphine, halides ( $\text{PCl}_3$ ,  $\text{PCl}_5$ ) and oxoacids (elementary idea only).

*Group 16 elements:* General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen: preparation, properties and uses; simple oxides; ozone. Sulphur – allotropic forms; compounds of sulphur: preparation, properties and uses of sulphur dioxide; sulphuric acid: industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).





**Group 17 elements:** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only).

**Group 18 elements:** General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

### **Unit VIII: d and f Block Elements** (Period 14)

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation. Preparation and properties of  $K_2Cr_2O_7$  and  $KMnO_4$ .

**Lanthanoids:** electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction.

**Actinoids:** Electronic configuration, oxidation states.

### **Unit IX: Coordination Compounds** (Period 12)

**Coordination compounds:** Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds, bonding; isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

### **Unit X: Haloalkanes and Haloarenes** (Periods 12)

**Haloalkanes:** Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions.

**Haloarenes:** Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only).

Uses and environmental effects of – dichloromethane, trichloromethane, tetrochloromethane, iodoform, freons, DDT.

### **Unit XI: Alcohols, Phenols and Ethers** (Periods 12)

**Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, some important compounds – methanol and ethanol.

**Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols.

**Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.





## Unit XII: Aldehydes, Ketones and Carboxylic Acids (Periods 12)

*Aldehydes and Ketones:* Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses.

*Carboxylic Acids:* Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

## Unit XIII: Organic Compounds Containing Nitrogen (Periods 10)

*Amines:* Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary secondary and tertiary amines.

*Cyanides and Isocyanides* will be mentioned at relevant places in context.

*Diazonium salts:* Preparation, chemical reactions and importance in synthetic organic chemistry.

## Unit XIV: Biomolecules (Periods 12)

*Carbohydrates:* Classification (aldoses and ketoses), monosaccharides (glucose and fructose), oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); importance.

*Proteins:* Elementary idea of  $\alpha$  - amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation of proteins; enzymes.

*Vitamins:* Classification and functions.

*Nucleic Acids:* DNA and RNA .

## Unit XV: Polymers (Periods 8)

*Classification:* Natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers: natural and synthetic like polythene, nylon, polyesters, bakelite, rubber.

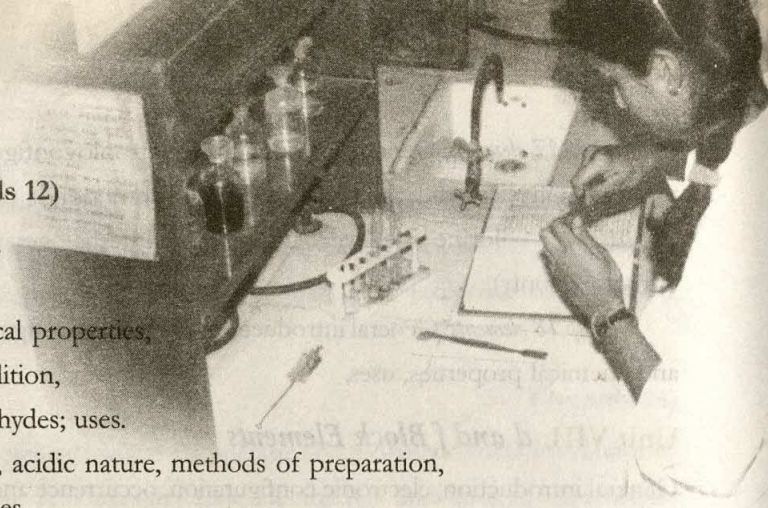
## Unit XVI: Chemistry in Everyday Life (Periods 8)

1. Chemicals in medicines – analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.
2. Chemicals in food – preservatives, artificial sweetening agents.
3. Cleansing agents – soaps and detergents, cleansing action.

### Practicals

**Total Periods 60**

Microchemical methods are available for several of the practical experiments. Wherever possible such techniques should be used.







### A. Surface Chemistry

(Periods 5)

- (a) Preparation of one lyophilic and one lyophobic sol.

*Lyophilic sol:* starch, egg albumin and gum.

*Lyophobic sol:* aluminium hydroxide, ferric hydroxide, arsenious sulphide.

- (b) Dialysis of sol prepared in (a) above.

- (c) Study of the role of emulsifying agent in stabilizing the emulsions of different oils.

### B. Chemical Kinetics

(Periods 4)

- (a) Effect of concentration and temperature on the rate of reaction between sodium thiosulphate and hydrochloric acid.

- (b) Study of reaction rates of any one of the following:

(i) Reaction of iodide ion with hydrogen peroxide at room temperature using different concentration of iodide ions.

(ii) Reaction between potassium iodate ( $\text{KIO}_3$ ) and sodium sulphite ( $\text{Na}_2\text{SO}_3$ ) using starch solution as indicator (clock reaction).

### C. Thermochemistry

(Periods 4)

Any one of the following experiments:

- (a) Enthalpy of dissolution of copper sulphate or potassium nitrate.

- (b) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH).

- (c) Determination of enthalpy change during interaction (Hydrogen bond formation) between acetone and chloroform.

### D. Electrochemistry

(Periods 2)

Variation of cell potential in  $\text{Zn}/\text{Zn}^{2+} // \text{Cu}^{2+}/\text{Cu}$  with change in concentration of electrolytes ( $\text{CuSO}_4$  or  $\text{ZnSO}_4$ ) at room temperature.

### E. Chromatography

(Periods 2)

- (a) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of  $R_f$  values.

- (b) Separation of constituents present in an inorganic mixture containing two cations only (constituents having wide difference in  $R_f$  values to be provided).

### F. Preparation of Inorganic Compounds

(Periods 4)

- (a) Preparation of double salt of ferrous ammonium sulphate or potash alum.

- (b) Preparation of potassium ferric oxalate.

### G. Preparation of Organic Compounds

(Periods 2)

Preparation of any one of the following compounds:

- (a) Acetanilide

- (b) Di-benzal acetone



(c) *p*-Nitroacetanilide.

(d) Aniline yellow or 2-Naphthol aniline dye.

**H. Test for the Functional Groups Present in Organic Compounds** (Periods 5)

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (primary) groups.

**I. Study of Carbohydrates, Fats and Proteins in Pure Form and Detection of their Presence in given Food Stuff** (Periods 4)

**J. Determination of Concentration/Molarity of  $\text{KMnO}_4$  Solution by Titrating it against a Standard Solution of** (Periods 8)

(a) Oxalic acid

(b) Ferrous ammonium sulphate

(Students will be required to prepare standard solutions by weighing themselves).

**K. Qualitative Analysis** (Periods 10)

Determination of one anion and one cation in a given salt.

Cations –  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$

Anions –  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_3^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_2^-$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{CH}_3\text{COO}^-$

(Note : Insoluble salts excluded)

**Project** (Periods 10)

Scientific investigations involving laboratory testing and collecting information from other sources.

**A few suggested projects**

- Study of presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of potassium bisulphate as food preservative under various conditions (temperature, concentration, time etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice etc.
- Extraction of essential oils present in *Saunf* (aniseed), *Ajwain* (carum), *Illaiichi* (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

**Note:** Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.



# PHYSICS

## PHYSICS

### (CLASSES XI–XII)



The proposed syllabus for Physics at the Higher Secondary Stage has been developed with a view that this stage of school education is crucial and challenging as it is a transition from general science to discipline-based curriculum. The recommendations of National Curriculum Framework–2005 have been followed, keeping the disciplinary approach with rigour and depth, appropriate to the comprehension level of learners. Due care has been taken that the syllabus is not heavy and at the same time it is comparable to the international standards. The syllabus provides logical sequencing of the subject matter with proper placement of concepts with their linkages for better understanding.

It is expected that the syllabus will help to develop an interest in the learners to study Physics as a discipline and inculcate in learners the abilities, useful concepts of Physics in real-life situations for making learning of Physics relevant, meaningful and interesting. The learner is expected to realize and appreciate the interface of Physics with other disciplines.

### Rationale

The higher secondary stage is crucial and challenging stage of school education as it is a transition from general science to discipline-based curriculum. Physics is being offered as an elective subject at the higher secondary stage of school education. At this stage, the students take up Physics, as a discipline, with a purpose of pursuing their future careers in basic sciences or professional courses like medicine, engineering, technology and studying courses in applied areas of science and technology at tertiary level. There is a need to provide the learners with sufficient conceptual background of Physics which would eventually make them competent to meet the challenges of academic and professional courses after the higher secondary stage.

The present effort of reforming and updating the Physics curriculum is an exercise based on the feedback received from the school system about existing syllabus and curricular material, large expansion of Physics knowledge, and also the educational and curricular concerns and issues provided in the National Curriculum Framework–2005.

The recommendations of National Curriculum Framework–2005 have been followed, keeping the disciplinary approach with rigour and depth, appropriate to the comprehension level of learners. Due care has been taken that the syllabus is not heavy and at the same time, it is comparable to the international standards. Also, it is essential to develop linkages with other disciplines for better learning of Physics concepts and establishing relationship with daily-life situations and life-skills.

### Salient Features

- Emphasis on basic conceptual understanding of content.
- Promoting process-skills, problem-solving abilities and applications of Physics concepts/content, useful in real-life situations for making Physics learning more relevant, meaningful and interesting.
- Emphasis on use of SI Units, Symbols, nomenclature of physical quantities and formulations as per international standards.



- Emphasis on Physics-related technological/industrial aspects to cope up with changing demand of society committed to the use of Physics, technology and informatics.
- Providing logical sequencing of the 'Units' of the subject matter and proper placement of concepts with their linkages for better learning and matching the concepts/content with comprehension level of the learners.
- Reducing the curriculum load by eliminating overlapping of concepts/content within the discipline of Physics or with other disciplines; reducing the descriptive portion and providing suitable formulation/depth of treatment appropriate to the comprehension level of learners, making room for contemporary core – topics and emerging curricular areas in Physics.
- The syllabus is arranged in Units spread over two years duration. The Units are so sequenced as to provide different dimensions of Physics as a discipline. The time allocation for learning Physics content per Unit in terms of instructional periods have been mentioned for each Unit to help the Textbook Development Team members to develop the instructional material so as to cover it within the time frame. Each Unit has been arranged with a topic, content related practical work (one core experiment, two activities to be evaluated) and suggested investigatory projects (one project to be evaluated). There is an imperative need for evaluating the learners through Continuous and Comprehensive Evaluation of various concepts covered in a Unit.

With this background, the Physics curriculum at the higher secondary stage attempts to:

- Strengthen the concepts developed at the secondary stage to provide firm ground work and foundation for further learning Physics at the tertiary level more effectively and learning the relationship with daily-life situations;
- Develop conceptual competence in the learners and make them realize and appreciate the interface of Physics with other disciplines;
- Expose the learners to different processes used in Physics-related industrial and technological applications;
- Develop process-skills and experimental, observational, manipulative, decision-making and investigatory skills in the learners;
- Promote problem-solving abilities and creative thinking to develop interest in the learners in the study of Physics as a discipline;
- Understand the relationship between nature and matter on scientific basis, develop positive scientific attitude, and appreciate the contribution of Physics towards the improvement of quality of life and human welfare;
- Physics teaching-learning at the higher secondary stage enables the learners to comprehend the contemporary knowledge and develop aesthetic sensibilities and process skills. The experimental skills and process-skills developed together with conceptual Physics knowledge prepare the learners for more meaningful learning experiences and contribute to the significant improvement of quality of life. The learners would also appreciate the role and impact of Physics and technology, and their linkages with overall national development.



# PHYSICS CLASS XI

## Theory

### Unit I: *Physical World and Measurement*

(Periods 10)

*Physics:* Scope and excitement; nature of physical laws; Physics, technology and society.

*Need for measurement:* Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures.

Dimensions of physical quantities, dimensional analysis and its applications.

### Unit II: *Kinematics*

(Periods 30)

Frame of reference. Motion in a straight line: Position-time graph, speed and velocity. Uniform and non-uniform motion, average speed and instantaneous velocity.

Uniformly accelerated motion, velocity-time and position-time graphs, relations for uniformly accelerated motion (graphical treatment).

Elementary concepts of differentiation and integration for describing motion.

*Scalar and vector quantities:* Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity.

Unit vectors. Resolution of a vector in a plane – rectangular components. Motion in a plane. Cases of uniform velocity and uniform acceleration – projectile motion. Uniform circular motion.

### Unit III: *Laws of Motion*

(Periods 16)

Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications.

Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction, lubrication.

*Dynamics of uniform circular motion:* Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road).

### Unit IV: *Work, Energy and Power*

(Periods 16)

Scalar product of vectors. Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.

Notion of potential energy, potential energy of a spring, conservative forces; conservation of mechanical energy (kinetic and potential energies); non-conservative forces; elastic and inelastic collisions in one and two dimensions.

### Unit V: *Motion of System of Particles and Rigid Body*

(Periods 18)

Centre of mass of a two-particle system, momentum conservation and centre of mass motion.

Centre of mass of a rigid body; centre of mass of circular ring, disc, rod and sphere.

Vector product of vectors; moment of a force, torque, angular momentum, conservation of angular momentum with some examples.



Equilibrium of rigid bodies, rigid body rotation and equation of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration. Values of M.I. for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

### **Unit VI: Gravitation**

(Periods 14)

Kepler's laws of planetary motion. The universal law of gravitation.

Acceleration due to gravity and its variation with altitude and depth.

Gravitational potential energy; gravitational potential. Escape speed, orbital velocity of a satellite. Geostationary satellites.

### **Unit VII: Properties of Bulk Matter**

(Periods 28)

Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear, modulus of rigidity.

Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure.

Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Bernoulli's theorem and its applications.

Surface energy and surface tension, angle of contact, application of surface tension ideas to drops, bubbles and capillary rise.

Heat, temperature, thermal expansion; specific heat capacity – calorimetry; change of state – latent heat.

Heat transfer – conduction, convection and radiation, thermal conductivity, Newton's law of cooling.

### **Unit VIII: Thermodynamics**

(Periods 12)

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics). Heat, work and internal energy. First law of thermodynamics.

*Second law of thermodynamics:* Reversible and irreversible processes. Heat engines and refrigerators.

### **Unit IX: Behaviour of Perfect Gas and Kinetic Theory**

(Periods 8)

Equation of state of a perfect gas, work done on compressing a gas.

*Kinetic theory of gases:* Assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

### **Unit X: Oscillations and Waves**

(Periods 28)

Periodic motion – period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring – restoring force and force constant; energy in SHM – kinetic and potential energies; simple pendulum – derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only), resonance.

Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics. Beats. Doppler effect.



## Practicals

### Section A

#### Experiments

1. Use of Vernier Callipers
  - (i) to measure diameter of a small spherical/cylindrical body.
  - (ii) to measure dimensions of a given regular body of known mass and hence find its density.
  - (iii) to measure internal diameter and depth of a given beaker/calorimeter and hence find its volume.
2. Use of screw gauge
  - (i) to measure diameter of a given wire
  - (ii) to measure thickness of a given sheet
  - (iii) to measure volume of an irregular lamina
3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To determine the mass of two different objects using a beam balance.
5. To find the weight of a given body using parallelogram law of vectors.
6. Using a simple pendulum, plot  $L$ - $T$  and  $L$ - $T^2$  graphs. Hence find the effective length of a second's pendulum using appropriate graph.
7. To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface.
8. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination by plotting graph between force and  $\sin \theta$ .

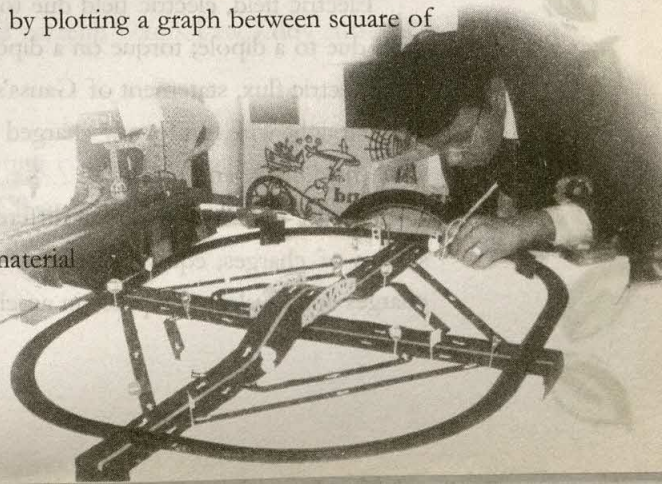
#### Activities

1. To make a paper scale of given least count, e.g. 0.2 cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in the range of a jet of water with the angle of projection.
6. To study the conservation of energy of a ball rolling down on inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

### Section B

#### Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.





2. To find the force constant and effective mass of a helical spring by plotting  $T^2$ -m graph using method of oscillations.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and  $1/V$ .
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring the terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. (i) To study the relation between frequency and length of a given wire under constant tension using sonometer.  
(ii) To study the relation between the length of a given wire and tension for constant frequency using sonometer.
8. To find the speed of sound in air at room temperature using a resonance tube by two-resonance positions.
9. To determine specific heat capacity of a given (i) solid (ii) liquid, by method of mixtures.

### Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded  
(i) at its end (ii) in the middle.

## PHYSICS CLASS XII

### Theory

#### Unit I: *Electrostatics*

(Periods 25)

Electric charges and their conservation. Coulomb's law – force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field.

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipoles in an electrostatic field.



Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graaff generator.

### **Unit II: Current Electricity**

(Periods 22)

Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel.

Kirchhoff's laws and simple applications. Wheatstone bridge, metre bridge.

Potentiometer – principle and applications to measure potential difference, and for comparing emf of two cells; measurement of internal resistance of a cell.

### **Unit III: Magnetic Effects of Current and Magnetism**

(Periods 25)

Concept of magnetic field, Oersted's experiment.

Biot - Savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids.

Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors – definition of ampere. Torque experienced by a current loop in a magnetic field; moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements. Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

### **Unit IV: Electromagnetic Induction and Alternating Currents**

(Periods 20)

Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Eddy currents. Self and mutual inductance.

Need for displacement current.

Alternating currents, peak and rms value of alternating current /voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattless current.

✓ AC generator and transformer.



## Unit V: Electromagnetic Waves

(Periods 4)

Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

## Unit VI: Optics

(Periods 30)

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact. Refraction and dispersion of light through a prism.

Scattering of light – blue colour of the sky and reddish appearance of the sun at sunrise and sunset.

*Optical instruments:* Human eye, image formation and accommodation, correction of eye defects (myopia, hypermetropia, presbyopia and astigmatism) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

*Wave optics:* Wavefront and Huygens' principle, reflection and refraction of plane wave at a plane surface using wavefronts. Proof of laws of reflection and refraction using Huygens' principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. (Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarised light; Brewster's law, uses of plane polarised light and Polaroids.)

## Unit VII: Dual Nature of Matter and Radiation

(Periods 8)

Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation – particle nature of light.

Matter waves – wave nature of particles, de Broglie relation. Davisson-Germer experiment.

## Unit VIII: Atoms and Nuclei

(Periods 18)

Alpha - particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Composition and size of nucleus, atomic masses, isotopes, isobars; isotones. Radioactivity – alpha, beta and gamma particles/rays and their properties; radioactive decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission and fusion.

## Unit IX: Electronic Devices

(Periods 18)

Semiconductors; semiconductor diode – I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as



a voltage regulator; Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.

## Unit X: Communication Systems

(Periods 10)

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude-modulated wave.

### Practicals

#### Section A

#### Experiments

1. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
2. To find resistance of a given wire using metre bridge and hence determine the specific resistance of its material.
3. To verify the laws of combination (series/parallel) of resistances using a metre bridge.
4. To compare the emf's of two given primary cells using potentiometer.
5. To determine the internal resistance of given primary cell using potentiometer.
6. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
7. To convert the given galvanometer (of known resistance of figure of merit) into an ammeter and voltmeter of desired range and to verify the same.
8. To find the frequency of the ac mains with a sonometer.

#### Activities

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (ac/dc), current (ac) and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.



## Section B

### Experiments

1. To find the value of  $v$  for different values of  $u$  in case of a concave mirror and to find the focal length.
2. To find the focal length of a convex lens by plotting graphs between  $u$  and  $v$  or between  $1/u$  and  $1/v$ .
3. To find the focal length of a convex mirror, using a convex lens.
4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between the angle of incidence and the angle of deviation.
6. To determine refractive index of a glass slab using a travelling microscope.
7. To find refractive index of a liquid by using (i) concave mirror, (ii) convex lens and plane mirror.
8. To draw the I-V characteristics curves of a p-n junction in forward bias and reverse bias.
9. To draw the characteristics curve of a zener diode and to determine its reverse break down voltage.
10. To study the characteristics of a common-emitter npn or pnp transistor and to find out the values of current and voltage gains.

### Activities

1. To study effect of intensity of light (by varying distance of the source) on an LDR.
2. To identify a diode, an LED, a transistor, and IC, a resistor and a capacitor from mixed collection of such items.
3. Use of multimeter to (i) identify base of transistor, (ii) distinguish between npn and pnp type transistors, (iii) see the unidirectional flow of current in case of a diode and an LED, (iv) check whether a given electronic component (e.g. diode, transistor or IC) is in working order.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by (i) convex lens (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

### Suggested Investigatory Projects

1. To investigate whether the energy of a simple pendulum is conserved.
2. To determine the radius of gyration about the centre of mass of a metre scale used as a bar pendulum.





3. To investigate changes in the velocity of a body under the action of a constant force and determine its acceleration.
4. To compare effectiveness of different materials as insulators of heat.
5. To determine the wavelength of laser beam by diffraction.
6. To study various factors on which the internal resistance/emf of a cell depends.
7. To construct a time-switch and study dependence of its time constant on various factors.
8. To study infrared radiations emitted by different sources using photo-transistor.
9. To compare effectiveness of different materials as absorbers of sound.
10. To design an automatic traffic signal system using suitable combination of logic gates.
11. To study luminosity of various electric lamps of different powers and make.
12. To compare the Young's modulus of elasticity of different specimens of rubber and also draw their elastic hysteresis curve.
13. To study collision of two balls in two dimensions.
14. To study frequency response of (i) a resistor, an inductor and a capacitor, (ii) RL circuit, (iii) RC circuit, (iv) LCR series circuit.



# BIOLOGY

(CLASSES XI – XII)

In the present attempt of the NCERT to revise the Biology syllabus of the Classes XI and XII, several documents like 'Learning without Burden', the National Curriculum Framework– 2005, the report of the 'National Focus Group on Teaching of Science' as well as reports of several external and internal reviews carried out, helped to decide the main focus of the revision. Hence, the revised syllabus aims primarily at reducing the information load while ensuring at the same time that ample opportunities and scope for learning and appreciating basic concepts of Biology continues to be available within the framework.

The Biology Syllabus reinforces the ideas introduced in the lower classes while the children learn new concepts besides getting an exposure to contemporary areas of Biology. This syllabus aims also at emphasising the underlying principles that are common to both animals and plants, as well as highlighting the interrelationships of Biology with other areas of knowledge. The format of the syllabus allows a simple, clear, sequential flow of concepts without any jarring jumps. The empirical experience gained and practical exercises carried out during the course would prepare the student to handle Biology easily at higher levels in case she/he opts to continue further studies in this area.

The revised syllabus stresses the connection of the study of Biology to real life problems – use of biological discoveries/innovations in everyday life – in environment, industry, medicine, health and agriculture.

Since it was important that the quality of Biology education at the higher secondary level was not compromised in any way, the reduction in load from the syllabus required a very careful selection of topics to be taught. The Committee chose to leave topics out if: the question about why the child needs to study the topic at the particular stage could not be answered; if the topic had no direct relevance to the child i.e. was not contextual; if the content was repetitive across stages with no change in expected understanding, and if any topic was in isolation with no evident horizontal or vertical linkages. The need for a network of ideas and cross-linking between the areas being identified was deemed very important. While deciding on the units/topics and the depth of each topic for the higher secondary level, a holistic view of the syllabus across all stages from the primary to the higher secondary and beyond was taken. Reducing the use of too many technical terms and avoiding very large numbers of examples will also help to make the content a little lighter. The importance of careful selection of illustrations and their use to make the concepts more explicit was stressed; in Biology the quality of illustrations can make or mar any attempt at good textbooks/teaching.

The principal objective at this stage would be to explore the variations amongst the living and developing respect for the diversities, and to appreciate that the most complex biological phenomena are also built on essentially simple processes. Learning Biology should uncover these elementary aspects and illustrate their linkage to more complex phenomena. It was also felt that the contributions of scientists (women scientists in particular) that led to critical and important discoveries in Biology should be highlighted, not merely through a chronological listing, but through brief biographical





discussions, in an effort to bring out the processes that led to the discovery of principles and ideas in Biology. These would stimulate critical and creative thinking. Besides, the proposed course at the higher secondary stage provides substantial orientation to the students to professional/career opportunities available in medicine, agriculture, research, teaching and industry.

The syllabus also takes up issues pertaining to environment, health and other ethical issues that arise with any interference of human beings in the natural processes, which have great relevance from the societal point of view. A discussion on these in the prescribed syllabus would help tackle prevalent misconceptions and empower the student to play a rational, responsible and informed role in society.

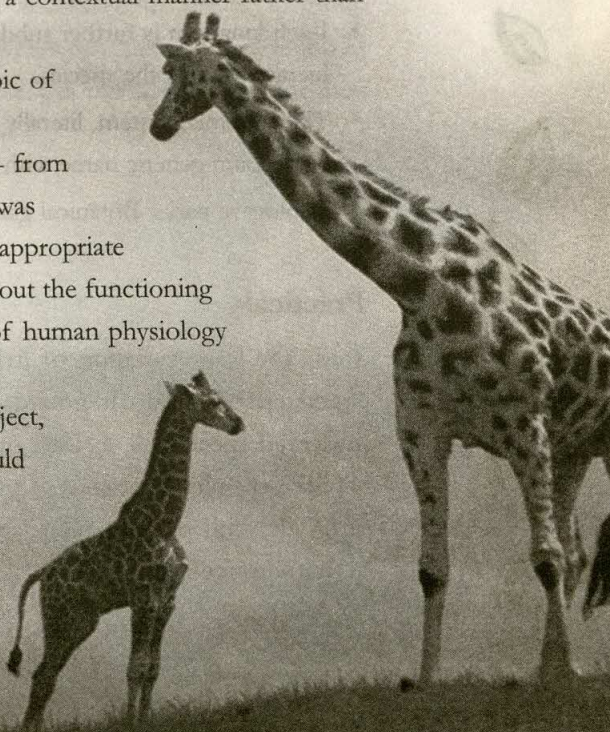
In each unit after giving the various sub topics, “*key points for developing subject matter*” are given in the form of bulleted sentences. These, we believe, will serve as a guide for the flow of concepts while developing the unit in the class as well as in the textbook. The teaching time in terms of number of periods available is indicated for each unit (total 180 periods). These key points, along with the number of classes allocated for each unit, provide a reasonable guide to the depth at which each unit is to be taught. These should be especially considered at the book writing stage to avoid overburdening and expansion beyond available teaching time.

Each unit in the theory course carries suggestions for practicals. It is expected that the practical aspects will be integrated into the chapters in the textbook such that the rationale for doing them is evident and the understanding gained from them would help in furthering the understanding of the concepts. These experiments should be in the form of investigative reporting and be given along with the text.

The young student would get an exposure to the various branches of Biology in a more contextual and friendly manner as they studied various units in the syllabus; each unit could also provide a glimpse of the career opportunities in the particular area. After studying any unit, the child gets an opportunity to think more deeply and to form informed opinions. The description of the diverse/various tools and techniques used in the study of Biology have not been collated to form a distinct unit in the syllabus. It is envisaged that the teachers who teach this syllabus and the textbooks prepared based on it, will discuss techniques in a contextual manner rather than distanced from real experimental situations.

The committee faced a dilemma while considering the topic of animal physiology: whether to deal with ‘animal’ or ‘human’ physiology. But the moment the focus of discussion shifted - from the ‘subject’ dictated one to the child - and the available time was considered, it was evident that ‘human’ physiology was more appropriate at this stage. The student is closest to herself and is curious about the functioning of the human body. The ‘science’ understood after a study of human physiology could be meaningfully applied to other organisms.

The students should be encouraged to do at least one project, may be in Class XI. The basic objective of these projects should be to provide the child with an exposure to what it means to carry out an investigation, what research methodologies are,





how data is analysed and presented and, how to interpret data and draw conclusions. The project should provide space for the child to choose a theme in the area of her interest, think independently, allow autonomous working and also provide freedom to present the project in any format of her/his choice, thus improving her/his communication skills.

The syllabus committee hopes that the spirit of the exercise is carried forward to the textbooks and the classrooms, across the country, ultimately meeting our objective of reducing the burden on the child while making learning Biology exciting. Teaching should emphasise on ways of acquiring knowledge rather than on conveying knowledge.

## BIOLOGY CLASS XI

### I. Diversity in Living World

Diversity of living organisms.

Classification of the living organisms (five kingdom classification, major groups and principles of classification within each kingdom).

Systematics and binomial system of nomenclature.

Salient features of animal (non chordates up to phylum level, and chordates up to class level) and plant (major groups; Angiosperms up to subclass) classification.

Botanical gardens, herbaria, zoological parks and museums.

(Periods 25)

Key points for developing subject matter

- The meaning of being 'alive'.
- Living organisms show a very large diversity in form and structure ranging from unicellular to very large multicellular well-differentiated bodies.
- For ease of study, they have been organized into categories and this is called classification.
- Principally, all living organisms can be placed in one or the other of five kingdoms.
- Each kingdom is further subdivided; there are several levels of organisation, the lowest in the hierarchy being the species.
- The Binomial system, literally 'two names', of classification is followed, where each organism has a Latin generic name with a specific epithet.
- Zoological parks, Botanical gardens, Herbaria and Natural museums serve as Taxonomical aids.

### Practicals

Study the large variation of living organisms in the neighbourhood, note their behaviour, characteristics, and categorize them into groups based on some common features. Study preserved specimens, at least one representative of each group, to understand correlations between the characteristics of organisms and their systematic position. Learn how to collect, press, dry and prepare plant specimens with labels (common and weedy species) for the herbarium/museum.



## II. Structural Organisation in Animals and Plants

Tissues in animals and plants.

Morphology, anatomy and functions of different parts of flowering plants: Root, stem, leaf, inflorescence, flower, fruit and seed.

Morphology, anatomy and functions of different systems of an annelid (earthworm), an insect (cockroach) and an amphibian (frog). (Periods 30)

Key points for developing subject matter

- Light and electron microscopes are used as tools for the study of tissues, cells and cell organelles.
- Higher organisation of animals and plants is achieved through assembly of thousands/millions of cells into specialised tissues that in turn form organs and organ systems.
- The organisation of the living body shows division of labour.
- Organisms show increasing complexity in structure and function as we move from the lower to the higher levels.
- Plants and animals exhibit a wide range of organisation from a simple level to the complex.
- Floral characteristics form the basis of classification and identification of Angiosperms. This can be illustrated through semi-technical descriptions of families using suitable examples of wild and cultivated plants.
- The structure of the animal body shows a wide range in morphology and anatomy.

### Practicals

Study different types of tissues in plants and animals (temporary preparations and permanent slides). Prepare and study transverse section of roots and stems to identify different tissues. Study of locally available plants and animals for their external morphology. Description of three common flowering plants in semi-technical terms (Solanaceae, Fabaceae and Liliaceae) and try to group them based on flower characteristics. Study the anatomy of roots, stems (through hand sections) and leaves (through permanent slides). Study of one vertebrate and one invertebrate for their morphology and internal organisation (through charts and models).

## III. Cell: Structure and Function

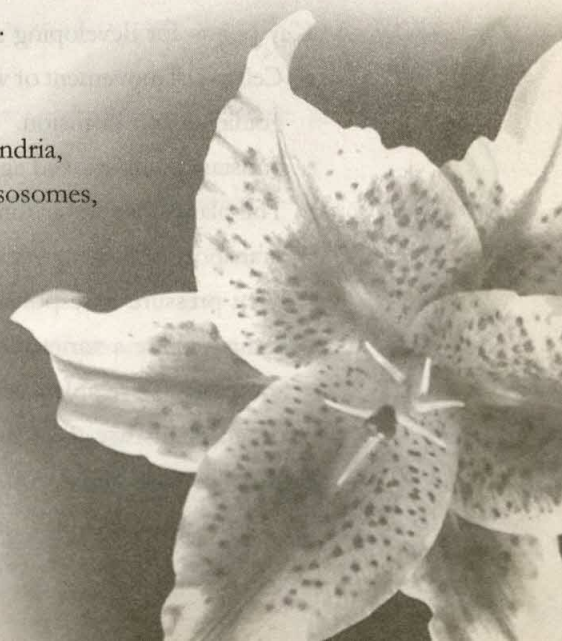
**Cell:** Cell wall, cell membrane and cell organelles (plastids, mitochondria, endoplasmic reticulum, Golgi bodies/ dictyosomes, ribosomes, lysosomes, vacuoles, centrioles) and nuclear organisation.

Mitosis, meiosis, cell cycle.

Basic chemical constituents of living bodies.

Structure and functions of carbohydrates, proteins, lipids and nucleic acids.

**Enzymes:** Types, properties and function. (Periods 40)





Key points for developing subject matter

- The cell organelles are designed to perform tasks such as synthesis, breakdown, respiration and transport.
- Essential processes of cell division – mitosis and meiosis are similar in animals and plants.
- Living bodies contain different categories of micro and macro-molecules.
- Macromolecules are of four broad categories.
- Proteins, the major macro group besides providing structural support, mediate many physiological functions like catalysis, defence, transport, and sensing.
- Enzymes are an important class of proteins responsible for all metabolic activities of the cell.
- Carbohydrates are major energy reserves, and also serve the function of providing structural support to majority of living organisms.
- Lipids serve as major components of membranes, as energy reserves and some hormones.
- The DNA has a double helical structure.
- Nucleic acids are the genetic material, and are responsible for determining the protein synthesis.

## Practicals

Observe suitable animal and plant cells (sections and smears) to highlight similarities and differences.

Study of mitosis in onion root tip and animal cells (permanent slides). Test for carbohydrates (glucose and starch), proteins and fats, and their detection in suitable plant and animal materials.

Study the activity of the enzyme amylase/ trypsin/ papain (using milk powder as substrate).

## IV. Plant Physiology

Movement of water, food, nutrients and gases.

Plants and water.

Mineral nutrition.

Respiration.

Photosynthesis.

Plant growth and development.

(Periods 40)

Key points for developing subject matter

- Cell to cell movement of water, food, gas and nutrients is dependent principally on concentration gradients and diffusion.
- Substances are moved against a concentration gradient through active transport.
- The plants lose water through their stomata.
- Transport of water over larger distances in plants depends on transpiration pull.
- Root pressure is responsible for movement of water up short distances and for guttation.
- Plants require a variety of mineral nutrients for their growth and development.
- Some plants are able to fix atmospheric nitrogen.
- Green plants use the C<sub>3</sub> pathway to fix carbon dioxide and synthesize simple sugars in the presence of sunlight.





- Some plants have the C4 pathway.
- Sugars are oxidised by all living organisms to release energy.
- Some organisms derive energy from food anaerobically.
- This energy is trapped as ATP and utilised for all metabolic activities.
- Growth regulators regulate growth and development in plants.

## Practicals

Demonstrate requirement of chlorophyll and light for photosynthesis. Separate plant pigments using paper chromatography. Study rate of respiration in different plant materials. Demonstrate anaerobic respiration. Study transpiration in plants using Cobalt Chloride method. Study imbibition of water by seeds or raisins. Study plasmolysis and osmosis. Study the effect of apical bud removal on plants.

## V. Human Physiology

Digestion and absorption.

Breathing and respiration.

Body fluids and circulation.

Excretory products and elimination.

Locomotion and movement.

Control and coordination.

(Periods 45)

Key points for developing subject matter.

- Food is broken down enzymatically in stages and nutrients absorbed as they pass through the alimentary canal.
- The process of exchange of gases takes place at organ, tissue, cell and organelle levels leading to oxidation of sugars in the cells.
- Gases, nutrients as well as waste products are transported in the body through the vascular system.
- The various components of the blood are involved in diverse functions.
- Metabolic wastes produced in the body are eliminated by excretory system.
- The kidneys play an important role in osmoregulation.
- Movement and locomotion involves interaction of the skeletal and muscular system; the skeleton also protects many parts of the body.
- Control and coordination require functional integration of neural and endocrine systems in the body.
- Sense organs are specialised to receive different stimuli and transmit them to the brain.

## Practicals

Study diversity of food habits in different parts of the country and discuss the sources of carbohydrates, proteins, fats and other nutrients. Test different food items for macro-nutrients. Effect of temperature and pH on activity of salivary amylase. Study of permanent slides of human blood cells. Testing urine for urea and sugar. Study of the human skeleton, types of joints.



### VI. Sexual Reproduction

Pollination and fertilisation in flowering plants.

Development of seeds and fruits.

Human reproduction: Reproductive system in male and female, menstrual cycle.

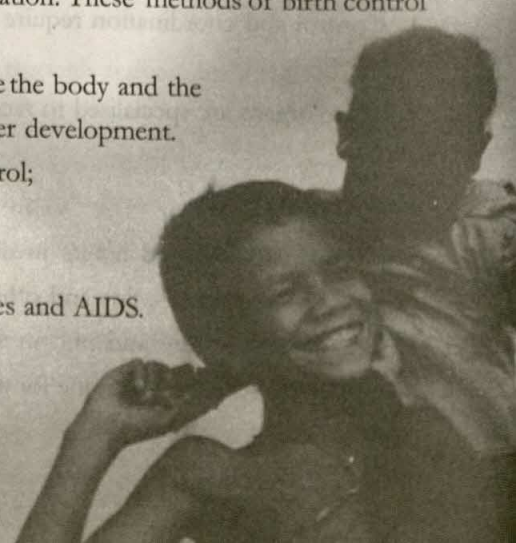
Production of gametes, fertilisation, implantation, embryo development, pregnancy and parturition.

Reproductive health – birth control, contraception and sexually transmitted diseases.

(Periods 35)

Key points for developing subject matter

- Plants show vegetative, asexual and sexual reproduction.
- In Angiosperms, the flowers contain the reproductive organs. They may be unisexual or bisexual.
- There are multitudes of ways of bringing together pollen and the carpel (pollination).
- In nature, pollination is subject to many uncertainties; often barriers to pollination and incompatibility have to be overcome for successful pollination and fertilisation.
- The male gametes are produced in the pollen tube, while the female gamete is produced in the embryo sac.
- Double fertilisation leads to the formation of embryo and the endosperm.
- The ovules in the ovary turn into seed after fertilisation. The ovary turns into a fruit.
- In animals, testes produce sperms and ovaries produce ova.
- Both male and female gametes production is under hormonal regulation; production of ova is a cyclic process.
- During fertilization, sperms migrate through the genital tract to fuse with the ova.
- The genetic makeup of the sperm determines the sex of the unborn child.
- The fertilised egg implants in the uterine wall where it remains connected with the mother till birth.
- The zygote undergoes cleavage, and then passes through different stages of development leading to the formation of three germinal layers.
- After completion of the gestation period, a fully developed baby is delivered.
- Contraceptive methods interfere with one or more of the following: gamete production, ovulation, sperm delivery, fusion of gametes and implantation. These methods of birth control thus help in family planning.
- In IVF the ova is fertilised using a donor sperm outside the body and the fertilised ova is implanted in the female body for further development.
- Abortion is legal, but not recommended for birth control; prenatal sex determination (usually associated with selective female foeticide) is illegal.
- Safe sex can help to prevent sexually transmitted diseases and AIDS.





## Practicals

Study of flowers adapted to pollination by different agencies (wind, insects). Study of the reproductive parts of unisexual and bisexual flowers. Study of pollen germination on a slide and pollen tube growth on the stigma. Study of tissue sections of mammalian testis and ovary to identify stages of gamete development. Study fruits and seeds of any common fruit (e.g. legume) at different stages of development.

## VII. Genetics and Evolution

Mendelian inheritance.

Chromosome theory of inheritance, deviations from Mendelian ratio (gene interaction- Incomplete dominance, co-dominance, complementary genes, multiple alleles).

Sex determination in human beings: XX, XY.

Linkage and crossing over.

Inheritance pattern of haemophilia and blood groups in human beings.

DNA: replication, transcription, translation.

Gene expression and regulation.

Genome and Human Genome Project.

DNA fingerprinting.

Evolution: Theories and evidences.

(Periods 45)

Key points for developing subject matter

- Plants and animals show Mendelian inheritance.
- Organisms may also show cytoplasmic inheritance.
- DNA carries information from one generation to the next.
- Human inheritance pattern can be exemplified by pattern of inheritance of blood groups and haemophilia.
- Genes on the same chromosomes show linkage and are inherited together unless crossing over occurs.
- The *Lac* operon exemplifies a typical model of gene regulation.
- Sequencing of Human DNA under the Human Genome Project aims at finding solutions for genetic disorders and several health problems.
- DNA fingerprinting is also used for identification and crime detection.
- Diversity in animals and plants arises out of variations in the genetic material.
- Mutation is an important source of variation.
- Further, variations in genetic material would affect the entire population over generations to give rise to new species and, therefore, lead to evolution.
- The process of evolution is explained by various theories (Lamarckism, Darwinism and Neo-Darwinism). Different types of evidences support the theories.



## Practicals

Study mitosis in onion root tips and animal cells (grasshopper) and meiosis in onion buds and grasshopper testis (permanent slides). Stain tissue section for nucleic acids (aceto carmine stain). Study Mendelian inheritance using seeds of different colours/sizes of any plant. Prepare pedigree charts for genetic traits such as rolling of tongue, blood groups, widow's peak, colour blindness. Study analogous and homologous organs in various plants and animals.

## VIII. Biology and Human Welfare

Animal husbandry.

Basic concepts of immunology, vaccines.

Pathogens, Parasites.

Plant breeding, tissue culture, food production.

Microbes in household food processing, industrial production, sewage treatment and energy generation.

Cancer and AIDS.

Adolescence and drug/alcohol abuse.

(Periods 35)

Key points for developing subject matter

- Traditionally farm animals have been bred for increased productivity, disease and pest resistance.
- The human body has its own defence mechanism.
- The defence system is constantly under attack from diverse sources – pollutants, chemicals and infectious organisms.
- Our body is capable of producing millions of types of antibodies to trap/remove and overcome the adverse effects of these foreign bodies/chemicals.
- However, against some infectious organisms we need to develop antibodies in advance, i.e. acquired immunity.
- Vaccination can help in developing immunity to specific diseases.
- Genetically engineered micro organisms are serving as bioreactors for production of vaccines and drugs.
- Infectious organisms like helminths (*Ascariasis*, *Filaria*), protozoa (Amoebiasis, Malaria), bacteria (Typhoid, Pneumonia), viruses (common cold, AIDS) and fungi (Ring worm) attacks specific systems of our body and produce characteristic symptoms.
- Each infectious organism, therefore, requires individual preventive measures.
- Some of these preventive measures demand improved personal hygiene and living conditions.
- Traditional plant breeding has been the method of creating varieties that are high on yield, resistance to pests and diseases and adapted to a given climatic condition. This has been the source of green revolution in India.
- New methods of propagation using tissue culture and genetic alteration using rDNA technology provide novel methods of crop improvement, horticulture, pest resistance.
- Microbes thrive by degradation/conversion of organic and inorganic compounds.



- These characteristics of microbes can be exploited to produce household products (yoghurt/vinegar), for industrial production, treatment of sewage and energy generation.
- Diseases like cancer and AIDS – the major cause of death in the modern world – need adequate preventive/control measures.
- Some people who are unable to handle the emotional stress and strain of growing up find apparent relief in actions like drug and alcohol consumption; in reality a non-solution since it leads to severe repercussions like physiological and emotional disorders.

## Practicals

Exercise on controlled pollination – emasculation, tagging and bagging. Identify common disease causing organisms such as *Ascaris*, *Entamoeba*, *Plasmodium*, ring worm. Comment on the symptoms of the diseases that they cause.

## IX. Biotechnology and its Applications

Recombinant DNA technology.

Applications in Health, Agriculture and Industry.

Genetically modified (GM) organisms; biosafety issues.

Insulin and Bt cotton.

(Periods 30)

Key points for developing subject matter

- DNA is a long polymer that can be edited by cutting and joining in any desired way. The edited DNA molecule (recombinant DNA) can be reintroduced into microbes, animals or plants to create genetically modified (GM) organisms or transgenics.
- rDNA technology is the very basis of many applications in biotechnology – for example to produce desired drugs and for gene therapy.
- rDNA technology has also played a major role in production of GM foods which have the advantage of high yields, pest and disease resistance.
- Use of GM food and crops has raised several questions regarding its bio-safety from the point of human consumption, environment and other social issues.
- A combination of classical breeding with rDNA technology and genetic modification has great potential for animal breeding.
- While cloning has been in use for plants since several decades, use of the technique in animals, particularly human cloning, raises several ethical and other issues.
- rDNA technology (gene therapy) can provide effective remedies for several genetic disorders.
- Bioreactors have been developed for production of vaccines and drugs.

## Practicals

Stain tissue section for nucleic acids (aceto-carmin staining). Make a model of DNA. Observe the quality and shelf life etc of fruits/seeds available in the market.



## X. Ecology and Environment

Ecosystems: Components, types and energy flow.

Species, population and community.

Ecological adaptations.

Centres of diversity and conservation of biodiversity, National parks and sanctuaries.

Environmental issues.

(Periods 35)

Key points for developing subject matter

- The living organisms in their environment form a structural and functional unit in terms of energy flow (ecological pyramids).
- The biotic and abiotic components within an ecosystem interact with each other.
- Several types of ecosystems can be classified and identified in nature depending on the climate, habitat, energy flow pattern and the physiognomy.
- In nature, organisms do not occur singly but exist as populations and communities.
- Plants and animals are adapted to their habitats such as in deserts and in water.
- Several factors affect biodiversity including natural and anthropogenic activities.
- In India, women have played a major role in conservation of plants, animals and natural resources.
- The need of the present day is to conserve biodiversity for a sustainable living; several conservation methods have been adopted.
- Conservation of biodiversity may be *in situ* or *ex situ*.
- The 'Silent Valley' as a case study, to understand the value of environmental impact assessment and the role of peoples' participation.
- Introduction to the idea that new products, processes and ideas related to biodiversity can be patented (Intellectual Property Rights, IPR).
- Pollution, deforestation, global warming, ozone layer depletion, underground water level and threat to biodiversity (with special reference to wild life) are some among many environmental concerns.

### Practicals

Collect soils from different sites and study them for texture, moisture content and pH. Correlate with the kinds of plants found in them. Study plants and animals found in dry and aquatic conditions. Collect water from any water bodies around you and study them for pH, clarity, and presence of any living organisms. Study the amount of SPM (suspended particulate matter) in air at two widely separated sites.

## LIST OF PRACTICALS CLASS XI

1. Study parts of a compound microscope.
2. Study of the specimens and identification with reasons – Bacteria, *Oscillatoria*, *Spirogyra*, *Rhizopus*, mushroom. Yeast, liverwort, moss, fern, *Pinus*, one monocotyledon and one dicotyledon and one lichen.



3. Study of specimens and identification with reasons – *Amoeba*, *Hydra*, Liverfluke, *Ascaris*, leech, earthworm, prawn, silk worm, honeybee, snail, star fish, shark, *rohu*, frog, lizard, pigeon and rabbit.
4. Study of tissues, and diversity in shapes and sizes of plant and animal cells (e.g. palisade cells, guard cells, parenchyma, collenchyma, sclerenchyma, xylem, phloem, squamous epithelium, muscle fibres and mammalian blood smear) through temporary/permanent slides.
5. Study of mitosis in onion root tip cells and animal cells (grasshopper)(permanent slides).
6. Study of different modifications in root, stem and leaves.
7. Study and identify different types of inflorescences.
8. Study and describe three common flowering plants (Solanaceae, Fabaceae and Liliaceae).
9. Preparation and study of t.s dicot and monocot roots and stems (normal).
10. Study external morphology of earthworm, cockroach and frog through models.
11. Study of osmosis by potato osmometer.
12. Study of plasmolysis in epidermal peels (e.g. *Rhoeo* leaves).
13. Study of imbibition in seeds/raisins.
14. Study of distribution of stomata in the upper and lower surface of leaves.
15. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
16. Test for the presence of sugar, starch, proteins and fats. Detect them in suitable plant and animal materials.
17. Separate plant pigments through paper chromatography.
18. Study rate of respiration in flower buds/leaf tissue and germinating seeds.
19. Observation and comments on the experimental set up on:
  - (a) Anaerobic respiration.
  - (b) Phototropism.
  - (c) Apical bud removal.
  - (d) Suction due to transpiration.
20. Study effect of different temperature salivary gland amylase on starch.
21. To test the presence of urea in urine.
22. To detect the presence of sugar in urine/blood sample.
23. To detect the presence of albumin in urine.
24. To detect the presence of bile salts in urine.
25. To study human skeleton and different types of joints.

## LIST OF PRACTICALS CLASS XII

1. Study of the reproductive parts of different flowers.
2. Study of flowers adapted to pollination by different agencies (wind, insect).
3. Study of per cent pollen germination on a slide.





4. Study pollen tube growth on the stigma.
5. Study fruits and seeds of any common fruit (e.g. legume) at different stages of development.
6. Study and identify stages of gamete development in t.s.testis and t.s. ovary.
7. Study mitosis in onion root tips (preparation).
8. Study meiosis in onion bud cells and grasshopper testis (permanent slides).
9. Study of t.s. of blastula through permanent slide.
10. Study Mendelian inheritance using seeds of different colours/size of any plant.
11. Prepare pedigree charts for genetic traits such as rolling of tongue, blood groups, widows's peak, colourblindness.
12. Exercise on controlled pollination – emasculation, tagging and bagging.
13. Stain tissue section for nucleic acids (aceto carmine stain).
14. To identify common disease causing organism like *Ascaris*, *Entamoeba*, *Plasmodium*, ring worm. Comment on the symptoms of the diseases that they cause.
15. Collect and study soil from different sites and study them for texture and moisture content.
16. Study the pH and water holding capacity of soil. Correlate with the kinds of plants found in them.
17. Study plants and animals found in dry conditions. Comment upon on their adaptations/ ecosystems.
18. Study plants and animals of aquatic conditions. Comment upon on their adaptations/ ecosystems.
19. Collect water from different water bodies around you and study them for pH, clarity and presence of any living organisms.
20. Study the amount of suspended particulate matter in air at the two widely different sites.
21. Study of plant population density by quadrat method.
22. Study of plant population frequency by quadrat method.
23. Study analogous and homologous organs in various plants and animals.

## REPORT PROJECT REPORT

Students are also expected to carry out one investigatory project that would engage them for about a week in actual experimentation. They would be expected to submit a project report of the same that would include a presentation of the results obtained in their investigation.



# MATHEMATICS

## MATHEMATICS (CLASSES IX–XII)

This syllabus continues the approach along which the syllabi of Classes I to VIII have been developed. It has been designed in a manner that maintains continuity of a concept and its applications from Classes IX to XII.

The salient features of the syllabus are the following:

- (i) The development and flow is from Class I upwards, not from college level down.
- (ii) It is created keeping in mind that the time for transacting it is approximately 180 hours, a realistic figure based on feedback from the field.
- (iii) The time given for developing a concept/series of concepts is allowing for the learner to explore them in several ways to develop and elaborate her understanding of them and the inter-relationships between them. While transacting the syllabus, we expect that the learner would be allowed a variety of opportunities for exploring mathematical concepts and processes, to help her construct her understanding of these.
- (iv) The focus is on developing the processes involved in mathematical reasoning. Accordingly, the learner requires plenty of opportunity and enough time to develop the processes of dealing with greater abstraction, moving from particular to general to particular, moving with facility from one representation to another of a concept or process, solving and posing problems, etc.
- (v) Linkages with the learner's life and experiences, and across the curriculum, need to be focused upon while transacting the curriculum. The idea is to allow the learner to realize how and why mathematics is all around us.
- (vi) We note that it is at the secondary stage, the child enters into more formal mathematics. She needs to see the connections with what she has studied so far, consolidate it and begin to try and understand the formal thought process involved. With this in view two areas, related to mathematical proofs/reasoning and mathematical modelling, have been introduced from Class IX to XII, in a graded manner. Since these areas are thought of for the first time at these stages and the required awareness is lacking, it was decided to have these topics as appendices in the textbooks. This will give an opportunity to teachers



and students to get exposure to these concepts. It is proposed that these topics may be considered for inclusion in the main syllabi in due course of time.

## SECONDARY STAGE

### General Guidelines

1. All concepts/identities must be illustrated by situational examples.
2. The language of 'word problems' must be clear, simple, and unambiguous.
3. All proofs to be produced in a non-didactic manner, allowing the learner to see flow of reason. Wherever possible give more than one proof.
4. Motivate most results. Prove explicitly those where a short and clear argument reinforces mathematical thinking and reasoning. There must be emphasis on correct way of expressing their arguments.
5. The reason for doing ruler and compass construction is to motivate and illustrate logical argument and reasoning. All constructions must include an analysis of the construction, and proof for the steps taken to do the required construction must be given.

## CLASS IX

### Units

- I. Number Systems
- II. Algebra
- III. Coordinate Geometry
- IV. Geometry
- V. Mensuration
- VI. Statistics and Probability

- Appendix:** 1. Proofs in Mathematics,  
2. Introduction to Mathematical Modelling.

### Unit I: Number Systems

#### Real Numbers

(Periods 20)

Review of representation of natural numbers, integers, rational numbers on the number line. Representation of terminating/non-terminating recurring decimals, on the number line through successive magnification. Rational numbers as recurring/terminating decimals.



Examples of nonrecurring/non terminating decimals such as  $\sqrt{2}, \sqrt{3}, \sqrt{5}$  etc. Existence of non-rational numbers (irrational numbers) such as  $\sqrt{2}, \sqrt{3}$  and their representation on the number line. Explaining that every real number is represented by a unique point on the number line, and conversely, every point on the number line represents a unique real number. Existence of  $\sqrt[n]{x}$  for a given positive real number  $x$  (visual proof to be emphasized). Definition of  $n$ th root of a real number.

Recall of laws of exponents with integral powers. Rational exponents with positive real bases (to be done by particular cases, allowing learner to arrive at the general laws).

Rationalisation (with precise meaning) of real numbers of the type (and their combinations)

$\frac{1}{a+b\sqrt{x}}$  and  $\frac{1}{\sqrt{x}+\sqrt{y}}$  where  $x$  and  $y$  are natural numbers and  $a, b$  are integers.

## Unit II: Algebra

### Polynomials

(Periods 25)

Definition of a polynomial in one variable, its coefficients, with examples and counter examples, its terms, zero polynomial. Degree of a polynomial. Constant, linear, quadratic, cubic polynomials; monomials, binomials, trinomials. Factors and multiples. Zeros/roots of a polynomial/equation. State and motivate the Remainder Theorem with examples and analogy to integers. Statement and proof of the Factor Theorem. Factorisation of  $ax^2 + bx + c$ ,  $a \neq 0$  where  $a, b, c$  are real numbers, and of cubic polynomials using the Factor Theorem.

Recall of algebraic expressions and identities. Further identities of the type:

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx, (x \pm y)^3 = x^3 \pm y^3 \pm 3xy(x \pm y),$$

$x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$  and their use in factorization of polynomials. Simple expressions reducible to these polynomials.

### Linear Equations in Two Variables

(Periods 12)

Recall of linear equations in one variable. Introduction to the equation in two variables. Prove that a linear equation in two variables has infinitely many solutions, and justify their being written as ordered pairs of real numbers, plotting them and showing that they seem to lie on a line. Examples, problems from real life, including problems on Ratio and Proportion and with algebraic and graphical solutions being done simultaneously.

## Unit III: Coordinate Geometry

(Periods 9)

The Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane, notations, plotting points in the plane, graph of linear equations as examples; focus on linear equations of the type  $ax + by + c = 0$  by writing it as  $y = mx + c$  and linking with the chapter on linear equations in two variables.



## Unit IV: Geometry

### 1. Introduction to Euclid's Geometry

(Periods 6)

History – Euclid and geometry in India. Euclid's method of formalizing observed phenomenon into rigorous mathematics with definitions, common/obvious notions, axioms/postulates, and theorems. The five postulates of Euclid. Equivalent versions of the fifth postulate. Showing the relationship between axiom and theorem.

1. Given two distinct points, there exists one and only one line through them.
2. (Prove) Two distinct lines cannot have more than one point in common.

### 2. Lines and Angles

(Periods 10)

1. (Motivate) If a ray stands on a line, then the sum of the two adjacent angles so formed is  $180^\circ$  and the converse.
2. (Prove) If two lines intersect, the vertically opposite angles are equal.
3. (Motivate) Results on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines.
4. (Motivate) Lines, which are parallel to a given line, are parallel.
5. (Prove) The sum of the angles of a triangle is  $180^\circ$ .
6. (Motivate) If a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.

### 3. Triangles

(Periods 20)

1. (Motivate) Two triangles are congruent if any two sides and the included angle of one triangle is equal to any two sides and the included angle of the other triangle (SAS Congruence).
2. (Prove) Two triangles are congruent if any two angles and the included side of one triangle is equal to any two angles and the included side of the other triangle (ASA Congruence).
3. (Motivate) Two triangles are congruent if the three sides of one triangle are equal to three sides of the other triangle (SSS Congruence).
4. (Motivate) Two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle.
5. (Prove) The angles opposite to equal sides of a triangle are equal.
6. (Motivate) The sides opposite to equal angles of a triangle are equal.
7. (Motivate) Triangle inequalities and relation between 'angle and facing side'; inequalities in a triangle.

### 4. Quadrilaterals

(Periods 10)

1. (Prove) The diagonal divides a parallelogram into two congruent triangles.
2. (Motivate) In a parallelogram opposite sides are equal and conversely.
3. (Motivate) In a parallelogram opposite angles are equal and conversely.



- (Motivate) A quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal.
- (Motivate) In a parallelogram, the diagonals bisect each other and conversely.
- (Motivate) In a triangle, the line segment joining the mid points of any two sides is parallel to the third side and (motivate) its converse.

## 5. Area

(Periods 4)

Review concept of area, recall area of a rectangle.

- (Prove) Parallelograms on the same base and between the same parallels have the same area.
- (Motivate) Triangles on the same base and between the same parallels are equal in area and its converse.

## 6. Circles

(Periods 15)

Through examples, arrive at definitions of circle related concepts, radius, circumference, diameter, chord, arc, subtended angle.

- (Prove) Equal chords of a circle subtend equal angles at the centre and (motivate) its converse.
- (Motivate) The perpendicular from the centre of a circle to a chord bisects the chord and conversely, the line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.
- (Motivate) There is one and only one circle passing through three given non-collinear points.
- (Motivate) Equal chords of a circle (or of congruent circles) are equidistant from the centre(s) and conversely.
- (Prove) The angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.
- (Motivate) Angles in the same segment of a circle are equal.
- (Motivate) If a line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle.
- (Motivate) The sum of the either pair of the opposite angles of a cyclic quadrilateral is  $180^\circ$  and its converse.

## 7. Constructions

(Periods 10)

- Construction of bisectors of a line segment and angle,  $60^\circ$ ,  $90^\circ$ ,  $45^\circ$  angles etc, equilateral triangles.
- Construction of a triangle given its base, sum/difference of the other two sides and one base angle.
- Construction of a triangle of given perimeter and base angles.

## Unit V: Mensuration

### 1. Areas

(Periods 4)

Area of a triangle using Heron's formula (without proof) and its application in finding the area of a quadrilateral.



## 2. Surface Areas and Volumes

(Periods 10)

Surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders/cones.

## Unit VI: Statistics and Probability

### 1. Statistics

(Periods 13)

Introduction to Statistics: Collection of data, presentation of data – tabular form, ungrouped/grouped, bar graphs, histograms (with varying base lengths), frequency polygons, qualitative analysis of data to choose the correct form of presentation for the collected data. Mean, median, mode of ungrouped data.

### 2. Probability

(Periods 12)

History, Repeated experiments and observed frequency approach to probability. Focus is on empirical probability. (A large amount of time to be devoted to group and to individual activities to motivate the concept; the experiments to be drawn from real-life situations, and from examples used in the chapter on statistics).

## Appendix

### 1. Proofs in Mathematics

What a statement is; when is a statement mathematically valid. Explanation of axiom/postulate through familiar examples. Difference between axiom, conjecture and theorem. The concept and nature of a ‘proof’ (emphasize deductive nature of the proof, the assumptions, the hypothesis, the logical argument) and writing a proof. Illustrate deductive proof with complete arguments using simple results from arithmetic, algebra and geometry (e.g., product of two odd numbers is odd etc.). Particular stress on verification not being proof. Illustrate with a few examples of verifications leading to wrong conclusions – include statements like “every odd number greater than 1 is a prime number”. What disproving means, use of counter examples.

### 2. Introduction to Mathematical Modelling

The concept of mathematical modelling, review of work done in earlier classes while looking at situational problems, aims of mathematical modelling, discussing the broad stages of modelling – real-life situations, setting up of hypothesis, determining an appropriate model, solving the mathematical problem equivalent, analyzing the conclusions and their real-life interpretation, validating the model. Examples to be drawn from ratio, proportion, percentages, etc.



# CLASS X

## Units

- I. Number Systems
- II. Algebra
- III. Trigonometry
- IV. Coordinate Geometry
- V. Geometry
- VI. Mensuration
- VII. Statistics and Probability

- Appendix:** 1. Proofs in Mathematics  
2. Mathematical Modelling

## Unit I: Number Systems

### Real Numbers

(Periods 15)

Euclid's division lemma, Fundamental Theorem of Arithmetic – statements after reviewing work done earlier and after illustrating and motivating through examples. Proofs of results – irrationality of  $\sqrt{2}, \sqrt{3}, \sqrt{5}$ , decimal expansions of rational numbers in terms of terminating/non-terminating recurring decimals.

## Unit II: Algebra

### 1. Polynomials

(Periods 6)

Zeros of a polynomial. Relationship between zeros and coefficients of a polynomial with particular reference to quadratic polynomials. Statement and simple problems on division algorithm for polynomials with real coefficients.

### 2. Pair of Linear Equations in Two Variables

(Periods 15)

Pair of linear equations in two variables. Geometric representation of different possibilities of solutions/inconsistency.

Algebraic conditions for number of solutions. Solution of pair of linear equations in two variables algebraically – by substitution, by elimination and by cross multiplication. Simple situational problems must be included. Simple problems on equations reducible to linear equations may be included.



### 3. Quadratic Equations

(Periods 15)

Standard form of a quadratic equation  $ax^2 + bx + c = 0$ , ( $a \neq 0$ ). Solution of quadratic equations (only real roots) by factorization and by completing the square, i.e., by using quadratic formula. Relationship between discriminant and nature of roots.

Problems related to day-to-day activities to be incorporated.

### 4. Arithmetic Progressions (AP)

(Periods 8)

Motivation for studying AP. Derivation of standard results of finding the  $n^{\text{th}}$  term and sum of first  $n$  terms.

## Unit III: Trigonometry

### 1. Introduction to Trigonometry

(Periods 18)

Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios, whichever are defined at  $0^\circ$  and  $90^\circ$ . Values (with proofs) of the trigonometric ratios of  $30^\circ$ ,  $45^\circ$  and  $60^\circ$ . Relationships between the ratios.

*Trigonometric Identities:* Proof and applications of the identity  $\sin^2 A + \cos^2 A = 1$ . Only simple identities to be given. Trigonometric ratios of complementary angles.

### 2. Heights and Distances

(Periods 8)

Simple and believable problems on heights and distances. Problems should not involve more than two right triangles. Angles of elevation/depression should be only  $30^\circ$ ,  $45^\circ$ ,  $60^\circ$ .

## Unit IV: Coordinate Geometry

### Lines (In two-dimensions)

(Periods 15)

Review the concepts of coordinate geometry done earlier including graphs of linear equations. Awareness of geometrical representation of quadratic polynomials. Distance between two points and section formula (internal). Area of a triangle.

## Unit V: Geometry

### 1. Triangles

(Periods 15)

Definitions, examples, counterexamples of similar triangles.

1. (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.



4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
5. (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.
6. (Motivate) If a perpendicular is drawn from the vertex of the right angle to the hypotenuse, the triangles on each side of the perpendicular are similar to the whole triangle and to each other.
7. (Prove) The ratio of the areas of two similar triangles is equal to the ratio of the squares on their corresponding sides.
8. (Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides.
9. (Prove) In a triangle, if the square on one side is equal to sum of the squares on the other two sides, the angles opposite to the first side is a right triangle.

## 2. Circles

(Periods 8)

Tangents to a circle motivated by chords drawn from points coming closer and closer to the point.

1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.
2. (Prove) The lengths of tangents drawn from an external point to a circle are equal.

## 3. Constructions

(Periods 8)

1. Division of a line segment in a given ratio (internally).
2. Tangent to a circle from a point outside it.
3. Construction of a triangle similar to a given triangle.

## Unit VI: Mensuration

### 1. Areas Related to Circles

(Periods 12)

Motivate the area of a circle; area of sectors and segments of a circle. Problems based on areas and perimeter/circumference of the above said plane figures.

(In calculating area of segment of a circle, problems should be restricted to central angle of  $60^\circ$ ,  $90^\circ$  and  $120^\circ$  only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.)

### 2. Surface Areas and Volumes

(Periods 12)

1. Problems on finding surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. Frustum of a cone.



2. Problems involving converting one type of metallic solid into another and other mixed problems. (Problems with combination of not more than two different solids be taken.)

## Unit VII: Statistics and Probability

### 1. Statistics

(Periods 15)

Mean, median and mode of grouped data (bimodal situation to be avoided).

Cumulative frequency graph.

### 2. Probability

(Periods 10)

Classical definition of probability. Connection with probability as given in Class IX.

Simple problems on single events, not using set notation.

## Appendix

### 1. Proofs in Mathematics

Further discussion on concept of 'statement', 'proof' and 'argument'. Further illustrations of deductive proof with complete arguments using simple results from arithmetic, algebra and geometry. Simple theorems of the "Given ..... and assuming... prove .....". Training of using only the given facts (irrespective of their truths) to arrive at the required conclusion. Explanation of 'converse', 'negation', constructing converses and negations of given results/statements.

### 2. Mathematical Modelling

Reinforcing the concept of mathematical modelling, using simple examples of models where some constraints are ignored. Estimating probability of occurrence of certain events and estimating averages may be considered. Modelling fair instalments payments, using only simple interest and future value (use of AP).

## HIGHER SECONDARY STAGE

### General Guidelines

- (i) All concepts/identities must be illustrated by situational examples.
- (ii) The language of 'word problems' must be clear, simple and unambiguous.
- (iii) Problems given should be testing the understanding of the subject.
- (iv) All proofs to be produced in a manner that allow the learner to see flow of reasons. Wherever possible, give more than one proof.
- (v) Motivate results, wherever possible. Prove explicitly those results where a short and clear argument reinforces mathematical thinking and reasoning. There must be emphasis on correct way of expressing the arguments.





## Units

- I. Sets and Functions
- II. Algebra
- III. Coordinate Geometry
- IV. Calculus
- V. Mathematical Reasoning
- VI. Statistics and Probability

- Appendix:** 1. Infinite Series,  
2. Mathematical Modelling

## Chapters with Time Allocation

1.1 Sets	Periods 12
1.2 Relations and Functions	Periods 14
1.3 Trigonometric Functions	Periods 18
2.1 Principle of Mathematical Induction	Periods 06
2.2 Complex Numbers and Quadratic Equations	Periods 10
2.3 Linear Inequalities	Periods 10
2.4 Permutations and Combinations	Periods 12
2.5 Binomial Theorem	Periods 08
2.6 Sequence and Series	Periods 10
3.1 Straight Lines	Periods 09
3.2 Conic Sections	Periods 12
3.3 Introduction to Three-dimensional Geometry	Periods 08
4.1 Limits and Derivatives	Periods 18
5.1 Mathematical Reasoning	Periods 08
6.1 Statistics	Periods 10
6.2 Probability	Periods 15
<b>Total Periods</b>	<b>180</b>

## Unit I: Sets and Functions

### 1. Sets

Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of the set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set.



## 2. Relations and Functions

Ordered pairs, Cartesian product of sets. Number of elements in the cartesian product of two finite sets. Cartesian product of the reals with itself (upto  $R \times R \times R$ ).

Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function. Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions with their graphs. Sum, difference, product and quotients of functions.

## 3. Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity  $\sin^2 x + \cos^2 x = 1$ , for all  $x$ . Signs of trigonometric functions and sketch of their graphs. Expressing  $\sin(x+y)$  and  $\cos(x+y)$  in terms of  $\sin x$ ,  $\sin y$ ,  $\cos x$  and  $\cos y$ . Deducing the identities like following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x},$$

$$\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}, \cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2},$$

$$\sin x - \sin y = 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2}, \cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}.$$

Identities related to  $\sin 2x$ ,  $\cos 2x$ ,  $\tan 2x$ ,  $\sin 3x$ ,  $\cos 3x$  and  $\tan 3x$ . General solution of trigonometric equations of the type  $\sin \theta = \sin \alpha$ ,  $\cos \theta = \cos \alpha$  and  $\tan \theta = \tan \alpha$ . Proofs and simple applications of sine and cosine formulae.

## Unit II: Algebra

### 1. Principle of Mathematical Induction

Processes of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.

### 2. Complex Numbers and Quadratic Equations

Need for complex numbers, especially  $\sqrt{-1}$ , to be motivated by inability to solve every quadratic equation. Brief description of algebraic properties of complex numbers. Argand plane and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system.

### 3. Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Solution of system of linear inequalities in two variables – graphically.



#### 4. *Permutations and Combinations*

Fundamental principle of counting. Factorial  $n$ . Permutations and combinations, derivation of formulae and their connections, simple applications.

#### 5. *Binomial Theorem*

History, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, general and middle term in binomial expansion, simple applications.

#### 6. *Sequence and Series*

Sequence and Series. Arithmetic progression (A. P.), arithmetic mean (A.M.). Geometric progression (G.P.), general term of a G. P., sum of  $n$  terms of a G.P., geometric mean (G.M.), relation between A.M. and G.M. Sum to  $n$  terms of the special series:  $\sum n$ ,  $\sum n^2$  and  $\sum n^3$ .

### Unit III: Coordinate Geometry

#### 1. *Straight Lines*

Brief recall of 2D from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axes, point-slope form, slope-intercept form, two-point form, intercepts form and normal form. General equation of a line. Distance of a point from a line.

#### 2. *Conic Sections*

Sections of a cone: Circles, ellipse, parabola, hyperbola, a point, a straight line and pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

#### 3. *Introduction to Three-dimensional Geometry*

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.

### Unit IV: Calculus

#### *Limits and Derivatives*

Derivative introduced as rate of change both as that of distance function and geometrically, intuitive idea of limit. Definition of derivative, relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

### Unit V: Mathematical Reasoning

Mathematically acceptable statements. Connecting words/phrases — consolidating the understanding of “if and only if (necessary and sufficient) condition”, “implies”, “and/or”, “implied by”, “and”, “or”, “there exists” and their use through variety of examples related to real life and Mathematics. Validating the statements involving the connecting words — difference between contradiction, converse and contrapositive.



## Unit VI: Statistics and Probability

### 1. Statistics

Measure of dispersion; mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.

### 2. Probability

Random experiments: Outcomes, sample spaces (set representation). Events: Occurrence of events, 'not', 'and' & 'or' events, exhaustive events, mutually exclusive events. Axiomatic (set theoretic) probability, connections with the theories of earlier classes. Probability of an event, probability of 'not', 'and' & 'or' events.

## Appendix

### 1. Infinite Series

Binomial theorem for any index, infinite geometric series, exponential and logarithmic series.

### 2. Mathematical Modelling

Consolidating the understanding developed up to Class X. Focus on modelling problems related to real-life (like environment, travel, etc.) and connecting with other subjects of study where many constraints may really need to be ignored, formulating the model, looking for solutions, interpreting them in the problem situation and evaluating the model.

## Units

- I. Relations and Functions
- II. Algebra
- III. Calculus
- IV. Vectors and Three-Dimensional Geometry
- V. Linear Programming
- VI. Probability

- Appendix:** 1. Proofs in Mathematics  
2. Mathematical Modelling

## Chapters with Time Allocation

- |                                     |            |
|-------------------------------------|------------|
| 1.1 Relations and Functions         | Periods 10 |
| 1.2 Inverse Trigonometric Functions | Periods 12 |



2.1	Matrices	Periods 18
2.2	Determinants	Periods 20
3.1	Continuity and Differentiability	Periods 18
3.2	Applications of Derivatives	Periods 10
3.3	Integrals	Periods 20
3.4	Applications of the Integrals	Periods 10
3.5	Differential Equations	Periods 10
4.1	Vectors	Periods 10
4.2	Three-dimensional Geometry	Periods 12
5.1	Linear Programming	Periods 12
6.1	Probability	Periods 18
<b>Total Periods</b>		<b>180</b>

## Unit I: Relations and Functions

### 1. Relations and Functions

Types of relations: Reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

### 2. Inverse Trigonometric Functions

Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

## Unit II: Algebra

### 1. Matrices

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

### 2. Determinants

Determinant of a square matrix (up to  $3 \times 3$  matrices), properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear



equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

### Unit III: Calculus

#### 1. Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit function. Concept of exponential and logarithmic functions and their derivatives. Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

#### 2. Applications of Derivatives

Applications of derivatives: Rate of change, increasing/decreasing functions, tangents and normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

#### 3. Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, only simple integrals of the type

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}},$$

$$\int \frac{(px + q)}{ax^2 + bx + c} dx, \int \frac{(px + q)}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx \text{ and } \int \sqrt{x^2 - a^2} dx \text{ to be evaluated.}$$

Definite integrals as a limit of a sum. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

#### 4. Applications of the Integrals

Applications in finding the area under simple curves, especially lines, arcs of circles/parabolas/ellipses (in standard form only), area between the two above said curves (the region should be clearly identifiable).

#### 5. Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + P y = Q, \text{ where } P \text{ and } Q \text{ are functions of } x.$$



## Unit IV: Vectors and Three-Dimensional Geometry

### 1. Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

### 2. Three-dimensional Geometry

Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane. Distance of a point from a plane.

## Unit V: Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P. problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

## Unit VI: Probability

Multiplication theorem on probability. Conditional probability, independent events, total probability, Baye's theorem. Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trials and Binomial distribution.

## Appendix

### 1. Proofs in Mathematics

Through a variety of examples related to mathematics and already familiar to the learner, bring out different kinds of proofs: direct, contrapositive, by contradiction, by counter-example.

### 2. Mathematical Modelling

Modelling real-life problems where many constraints may really need to be ignored (continuing from Class XI). However, now the models concerned would use techniques/results of matrices, calculus and linear programming.



# SOCIAL SCIENCE

## Introduction

The revised syllabus for the Social Sciences in Classes VI-XII attempts to advance an on-going process of assisting children and young people to understand that a healthy engagement with the world must come as much from the way society takes shape and functions as from a proper sense of its material and physical foundations. From this, it is expected, a vision will evolve that the Social Sciences provide both essential skills of comprehension that are fundamental to any activity, and a means of self-understanding and fulfilment that can be diverting, exciting and challenging. The syllabus assumes that the knowledge apparatus of the child and the young person is itself complex — both given the wide range of materials that the visual and print media have drawn into country and urban life and the nature of the problems of everyday life. To negotiate the diversity and confusion and excitement the world throws up itself requires activity and insight that the Social Sciences can substantially provide. To have a firm and flexible perspective on India's past and the world from which, and in which, the country develops, sensitivity to crucial social problems is essential. The syllabus attempts to encourage such sensitivity and provide it with the ground on which it may deepen — stressing that attention should be paid to the means through which sensitivity and curiosity are aroused as much as the specific information that stimulates it.

The Social Sciences have been a part of the school curriculum before Class VI as part of the teaching of Environmental Studies. The revised EVS syllabus has attempted to draw the child's attention in Classes III-V to the broad span of time, space and the life in society, integrating this with the way in which she or he has come to see and understand the world around them.

In Classes VI-X, this process continues, but with a greater attention to specific themes and with an eye to the disciplines through which Social Science perspectives have evolved. Up to a point, the subjects that are the focus of college-level teaching — History, Geography, Political Science, and Economics — are meant to take shape in the child's imagination during these years but only in a manner where their boundaries are open to dispute, and their disciplinary quality is understated. With such intentions, syllabus-makers have been more concerned with theme and involvement rather than information. Textbook writers will be concerned to ensure that understanding does not suffer through suffocation by obsession with detail. Equally, the themes and details that are brought before the child for attention and discussion are also meant to clarify doubts and disputes that take shape in contemporary society — through an involvement of the classroom in discussions and debates via the medium of the syllabus.





With such a focus in mind, syllabus-makers for the Upper Primary and Secondary stages have sought to ensure that their course content overlaps at various levels, to strengthen understanding, and provide a foundation in detail from which natural curiosity and the capacity for investigation may evolve and develop. It is also anticipated that, in keeping with the spirit of the National Curriculum Framework the syllabus itself will promote project work that encourages the child to take stock of the overlap, to see a problem as existing at different and interconnected levels. Guides to this as well as specific instances will be provided in textbooks.

Throughout, India's own experiences over time, and the solutions advocated by national governments, as well as the problems they have encountered, are expected to give the child a firm sense of locality, region and nation in an interconnected and complex manner. Both the intentions that have stimulated policy, the ideals and compulsions that have guided them as well as the diversity of experience of what has taken place finds attention and enquiry in the syllabus. Equally, comparisons between India's experience and global experiences are encouraged and India's interactions with the world find attention. Social, cultural and political issues are the focus of comparison.

It is within such a framework that the deeper engagement with disciplines are expected to evolve in Classes XI and XII — allowing the young person either to prepare for higher education or a broad range of professions that require more specific skills. While anticipating some of the concerns of higher education, the syllabus of this time must and does focus on foundation rather than information — stimulating an awareness of essential categories, and a broad sense of disciplinary areas.

## **THE SOCIAL SCIENCES' SYLLABUS FOR SECONDARY STAGE**

### **Introduction**

Social Sciences is an integral component of general education up to the secondary stage of school education. Its study is crucial as it helps young learners to understand the society and the world in which they live, and view the socio-economic developments and changes in the context of time and space and also in relation to each other. Social Sciences has been part of the school curriculum at the elementary stage (Classes I-VIII) comprising primary stage (Classes I-V) and upper primary stage (Classes VI-VIII).

The revised syllabus for the Social Sciences in Classes I-X attempts to advance an on-going process to assist children and young people to understand that a healthy engagement with the world must come from knowledge of how society takes shape and functions. From this, it is expected, a vision will evolve that the Social Sciences provide skills of comprehension that are fundamental to any activity — and a path to self-understanding and fulfilment that can be diverting, exciting and challenging. The syllabus has acquired unusual dimensions given the range of material that the visual and print media have drawn into rural and urban life and the nature of the problems of everyday life. Social Sciences can provide an insight into the world's diversity and help resolve many conflicting issues. To have a firm, yet flexible perspective on India's past and the world from which, and in which, the country develops, sensitivity to crucial



social problems is essential. The syllabus attempts to encourage such sensitivity and provide it with the ground on which it may deepen — stressing that attention should be paid to the means through which sensitivity and curiosity are aroused as much as the specific information that stimulates it. The syllabus encourages an understanding of the human condition in terms that show the value of initiatives that take their cue from notions of democracy, equality and social justice defined in the broadest sense — but it seeks to do so through intelligent discussion and proper knowledge of alternatives.

At the secondary stage, Social Sciences help the learners in understanding the environment in its totality and developing a broader perspective and an empirical, reasonable and humane outlook. At this stage greater attention to specific themes is given with an eye to the disciplines through which Social Science perspectives have evolved. Up to a point, the subjects that are the focus of higher secondary teaching — History, Geography, Political Science, Economics — are meant to take shape in the child's imagination during these years. With such intentions, the syllabus has focused on theme and involvement rather than information. Textbooks will be written to ensure that understanding does not suffer by burdening the child with too much information and detail. Equally, the themes and details that are brought before the child for attention and discussion are also meant to clarify doubts and disputes that take shape in contemporary society — through an involvement of the classroom in discussions and debates via the medium of the syllabus.

In Classes IX-X, political scientists, historians and economists draw on the relationship between India and the world — already evident in the varying geography perspectives of earlier classes — through comparisons of various themes. Geography provides a sound focus on India's physical forms and resources in a manner that interacts with the work of geographers, historians, economists and the political scientists' discussion of democratic practice the world over.

With such a focus in mind, the syllabus for the Upper Primary and Secondary stages has sought to ensure that their course content overlaps at various levels, to strengthen understanding, and provide a foundation in detail from which natural curiosity and the capacity for investigation may evolve and develop. The approach to the syllabus has varied, but it has been consistent in these pedagogic priorities.

It is anticipated that, in keeping with the spirit of the National Curriculum Framework, the syllabus itself will promote project work that encourages the child to take stock of the overlap, to see a problem as existing at different and interconnected levels. Guides to this, as well as specific instances, will be provided in textbooks.

It is within such a framework that the deeper engagement with disciplines are expected to evolve in Classes XI and XII — allowing the young person either to prepare for higher education or a broad range of professions that require more specific skills. While anticipating some of the concerns of higher education, the syllabus of this time must and does focus on foundation rather than information — stimulating an awareness of essential categories, and a broad sense of disciplinary areas.





## Overall Theme for Class IX & X: India and the Contemporary World

### *Rationale*

In the history component of the Social Science Syllabus of the earlier classes (VI-VIII) students were introduced to the history of India from ancient to modern times. In Classes IX and X the attempt will be to study some of the diverse forces and developments that have shaped the history of the contemporary world. Developments in India will be located within this larger history.

In both these classes the syllabus will consist of three separate units, each focusing on a different set of themes, all of them important to our understanding of the contemporary world. Each year one set of themes will deal with political events, processes and ideologies, one with livelihood patterns, and one with questions of culture, rights and identity.

### *Objectives*

- In discussing the political events and processes, the effort will be to see how developments in the west as well as in the colonies are significant in the making of the modern world. The ideas of liberty, democracy and freedom come up not only in the west but also in the colonies. Anti democratic ideas — fascist, racist or communal — similarly develop in different forms in different countries.
- In the unit on 'Livelihoods and Economies' the effort will be to understand how different social groups confront as well as shape the economic changes in the modern world. Each theme within the unit will be studied through a focus on one region, and in many cases through two appropriate case studies, one Indian and one from another country. The effort will be to give students some idea of the variety within seemingly similar processes and phenomenon. The general discussion of the issue will revolve around and will be drawn out from the case studies.
- In focusing on issues of culture and identity, the attempt will be to make students aware of the fact that everything — clothing or food, sports or leisure, print or books — has a history. These histories reflect cultural and political changes and are often linked to issues of identity and power.
- In discussing each theme the textual narrative will be supplemented by extensive use of pictures, photographs, cartoons, extracts from a variety of original sources — eye witness accounts, travel literature, newspapers/journals, statements of leaders, official reports, terms of treaties, declarations by parties, and in some cases contemporary stories, autobiographies, diaries, popular literature, oral traditions. The effort will be again to make students read the sources, think of what they say, and why a thing is represented in a particular way. In many cases questions will be appended to pictures and extracts to allow a critical engagement with these.
- Each theme will be located in time and space through maps and timelines. Even in using maps the effort will be not simply to pass on a set of information but to persuade students to make inter connections, to read maps critically.





Themes	Objectives
<p>In all, five of the eight following themes are to be studied: two each from Units I and II, and one from Unit III.</p> <p><b>Unit I: Events and Processes</b></p> <p>In this unit the focus is on three events and processes that have in major ways shaped the identity of the modern world. Each represents a different form of politics, and a specific combination of forces. One event is linked to the growth of liberalism and democracy, one with socialism, and one with a negation of both democracy and socialism.</p> <p><b>1. French Revolution</b></p> <ol style="list-style-type: none"> <li>The Ancient Regime and its crises.</li> <li>The social forces that led to the revolution.</li> <li>The different revolutionary groups and ideas of the time.</li> <li>The legacy.</li> </ol> <p><b>2. Russian Revolution</b></p> <ol style="list-style-type: none"> <li>The crises of Tzarism.</li> <li>The nature of social movements between 1905 and 1917.</li> <li>The First World War and foundation of Soviet state.</li> <li>The legacy.</li> </ol> <p><b>3. Rise of Nazism</b></p> <ol style="list-style-type: none"> <li>The growth of social democracy.</li> <li>The crises in Germany.</li> <li>The basis of Hitler's rise to power.</li> <li>The ideology of Nazism.</li> <li>The impact of Nazism.</li> </ol> <p><b>Unit II: Economies and Livelihoods</b></p> <p>The themes in this section will focus on how different social groups grapple with the changes in the contemporary world and how these changes affect their lives.</p>	<ul style="list-style-type: none"> <li>In each of the themes in this unit students would be made familiar with extracts of speeches, political declarations, as well as the politics of caricatures, posters and engravings. Students would learn how to interpret these kinds of historical evidence.</li> <li>Familiarise students with the names of people involved, the different types of ideas that inspired the revolution, the wider forces that shaped it.</li> <li>Show how written, oral and visual material can be used to recover the history of revolutions.</li> <li>Explore the history of socialism through a study of the Russian revolution.</li> <li>Familiarize students with the names of people involved, the different types of ideas that inspired the revolution.</li> <li>Discuss the critical significance of Nazism in shaping the politics of modern world.</li> <li>Familiarize students with the speeches and writings of Nazi leaders.</li> </ul>





Themes	Objectives
<p><b>4. Pastoralists in the Modern World</b></p> <p>(a) Pastoralism as a way of life.</p> <p>(b) Different forms of pastoralism.</p> <p>(c) What happens to pastoralism under colonialism and modern states? Case studies: focus on two pastoral groups, one from Africa and one from India.</p> <p><b>5. Forest Society and Colonialism</b></p> <p>(a) Relationship between forests and livelihoods.</p> <p>(b) Changes in forest societies under colonialism. <i>Case studies:</i> Focus on two forest movements one in colonial India (Bastar) and one in Indonesia.</p> <p><b>6. Farmers and Peasants</b></p> <p>(a) Histories of the emergence of different forms of farming and peasant societies.</p> <p>(b) Changes within rural economies in the modern world. <i>Case studies:</i> Focus on contrasting forms of rural change and different forms of rural societies (expansion of large-scale wheat and cotton farming in USA, rural economy and the Agricultural Revolution in England, and opium production in colonial India)</p> <p><b>Unit III: Culture, Identity and Society</b></p> <p>The themes in this unit will consider how issues of culture are linked up to the making of contemporary world.</p> <p><b>7. Sports and Politics. The Story of Cricket</b></p> <p>(a) The emergence of cricket as an English sport.</p> <p>(b) Cricket and colonialism.</p> <p>(c) Cricket nationalism and de-colonization.</p> <p><b>8. Clothes and Cultures</b></p> <p>(a) A short history of changes in clothing.</p> <p>(b) Debates over clothing in colonial India.</p> <p>(c) Swadeshi and the movement for Khadi.</p>	<ul style="list-style-type: none"> <li>Consider what happens to pastoralists and pastoralism in the modern world, with the formation of modern states, marking of boundaries, processes of sedentarization, contraction of pastures, and expansion of markets.</li> <li>Point to the varying patterns of developments within pastoral societies in different places.</li> <li>Look at the impact of colonialism on forest societies, and the implication of scientific forestry.</li> <li>Discuss the social and cultural world of forest communities through the study of specific revolts.</li> <li>Understand how oral traditions can be used to explore tribal revolts.</li> <li>Show the different processes through which agrarian transformation may occur in the modern world.</li> <li>Understand how agricultural systems in India are different from that in other countries.</li> <li>Familiarize students with the idea that large scale farming, small scale production, shifting agriculture operate on different principles and have different histories.</li> <li>Suggest how sports also have a history and that it is linked up with the politics of power and domination.</li> <li>Introduce students to some of the stories in cricket that have historical significance.</li> <li>Show how clothing has a history, and how it is linked to questions of cultural identity.</li> <li>Discuss how clothing has been the focus of intense social battles.</li> </ul>



## Themes

## Objectives

Any two themes from the first two units and one from the third could be studied.

### Unit I: Events and Processes

#### 1. Nationalism in Europe

- The growth of nationalism in Europe after the 1830s.
- The ideas of Giuseppe Mazzini etc.
- General characteristics of the movements in Poland, Hungary, Italy and Germany, Greece.

#### 2. Nationalist Movement in Indo-China

- French colonialism in Indo-China.
- Phases of struggle against the French.
- The ideas of Phan Dinh Phung, Phan Boi Chau, Nguyen Ai Quoc (Ho Chi Minh).
- The second world war and the liberation struggle.
- America and the second Indo-China war.

#### 3. Nationalism in India: Civil Disobedience Movement

- First world war, Khilafat and Non-Cooperation.
- Salt Satyagraha.
- Movements of peasants, workers, tribals.
- Activities of different political groups.

### Unit II: Economies and Livelihoods

#### 4. Industrialisation 1850s–1950s

- Contrast between the form of industrialization in Britain and India.
- Relationship between handicrafts and industrial production, formal and informal sectors.
- Livelihood of workers.

Case studies: Britain and India

#### 5. Urbanisation and Urban Lives

- Patterns of urbanisation
- Migration and the growth of towns.

- The theme will discuss the forms in which nationalism developed along with the formation of nation states in Europe in the post-1830 period.
- Discuss the relationship/difference between European nationalism and anti-colonial nationalisms.
- Point to the way the idea of the nation states became generalized in Europe and elsewhere.

- Discuss the difference between French colonialism in Indochina and British colonialism in India.
- Outline the different stages of the anti-imperialist struggle in Indochina.
- Familiarize the students with the differences between nationalist movements in Indochina and India.

- Discuss the characteristics of Indian nationalism through a case study of Civil Disobedience Movement.
- Analyze the nature of the diverse social movements of the time.
- Familiarize students with the writings and ideals of different political groups and individuals.

- Discuss two different patterns of industrialisation, one in the imperial country and another within a colony.
- Show the relationship between different sectors of production.

- Show the difference between urbanization in two different contexts. A focus on Bombay and London



Themes	Objectives
<p>(c) Social change and urban life.</p> <p>(d) Merchants, middle classes, workers and urban poor.</p> <p><i>Case studies:</i> London and Bombay in the nineteenth and twentieth century.</p> <p><b>6. Trade and Globalization</b></p> <p>(a) Expansion and integration of the world market in the nineteenth and early twentieth century.</p> <p>(b) Trade and economy between the two Wars.</p> <p>(c) Shifts after the 1950s.</p> <p>(d) Implications of globalization for livelihood patterns.</p> <p><i>Case studies:</i> The post War International Economic order, 1945 to the 1960s.</p>	<p>will allow the discussions on urbanization and industrialization to complement each other.</p> <ul style="list-style-type: none"> <li>• Show that globalization has a long history and point to the shifts within the process.</li> <li>• Analyze the implication of globalization for local economies.</li> <li>• Discuss how globalization is experienced differently by different social groups.</li> </ul>
<p><b>Unit III: Culture, Identity and Society</b></p>	
<p><b>6. Print Culture and Nationalism</b></p> <p>(a) The history of print in Europe.</p> <p>(b) The growth of press in nineteenth century India.</p> <p>(c) Relationship between print culture, public debate and politics.</p>	<ul style="list-style-type: none"> <li>• The link between print culture and the circulation of ideas will be discussed.</li> <li>• Familiarize students with pictures, cartoons, extracts from propaganda literature and newspaper debates on important events and issues in the past.</li> </ul>
<p><b>7. History of the Novel</b></p> <p>(a) Emergence of the novel as a genre in the west.</p> <p>(b) The relationship between the novel and changes in modern society.</p> <p>(c) Early novels in nineteenth century India.</p> <p>(d) A study of two or three major writers.</p>	<ul style="list-style-type: none"> <li>• Show that forms of writing have a specific history, and that they reflect historical changes within society and shape the forces of change.</li> <li>• Familiarize students with some of the ideas of writers who have had a powerful impact on society.</li> </ul>

# GEOGRAPHY (CLASSES IX-X)

## Rationale

At this stage, Geography like other components of Social Sciences has a distinct entity. Yet adequate space has been given to develop multiple perspectives on a few selected themes, so that one also develops a comprehensive view. Geography draws its content both from natural sciences as well as Social Sciences, therefore, unlike other Social Sciences, it does not study only human behaviour which is governed by 'reasons', it also studies physical phenomena, which are governed by 'cause effect'.



Following the National Curriculum Framework – 2005, Contemporary India has been taken as the major area of study for a two-year course. While 'Land and the People' is the theme for Class IX, 'Resources and their Development' will be taken up in Class X. The learners, at this stage are prepared to take up a more intensive study for developing a deeper understanding of the socio-economic challenges before the nation. Local/regional context makes the learning relevant and enjoyable. Issues of gender, class and caste may be woven with the given content in an appropriate manner.

## Objectives

The major objectives of the course are to:

1. understand and appreciate the diversities in land and people of India with relation to their own place in the larger canvas.
2. understand the process of economic and social change and development in their own surrounding and relate it with contemporary India.
3. understand the process of change and development in India in relation to the world economy and polity.
4. understand the need for judicious utilisation of resources as well as the need for the conservation of the natural environment.
5. inculcate a critical appreciation for conservation and environmental concerns.
6. appreciate the rights of local communities in relation to their environment.

## CLASS IX: THEME: INDIA – LAND AND THE PEOPLE

Total 50 Periods

Topics	Objectives
<i>India:</i> Location, relief, structure, major physiographic units.	To understand the major landform features and the underlying geological structure; their association with various rocks and minerals as well as nature of soil types. Periods 12
<i>Climate:</i> Factors influencing the climate; monsoon – its characteristics, rainfall and temperature distribution; seasons; climate and human life. (One case study to be introduced related with natural disasters)	To identify the various factors influencing the climate and explain the climatic variation of our country and its impact on the life of the people; To explain the importance and unifying role of monsoons; Periods 10
<i>Drainage:</i> Major rivers and tributaries, lakes and seas, role of rivers in the economy, pollution of rivers, measures to control river pollution.	To understand the river systems of the country and explain the role of rivers in the evolution of human society. Periods 10



Topics	Objectives
<p><i>Natural Vegetation:</i> Vegetation types, distribution as well as altitudinal variation, need for conservation and various measures.</p> <p><i>Wildlife:</i> Major species, their distribution, need for conservation and various measures.</p>	<p>To find out the nature of diverse flora and fauna as well as their distribution;</p> <p>To develop concern about the need to protect the biodiversity of our country.</p> <p>Periods 8</p>
<p><i>Population:</i> Size, distribution, age-sex composition, population change-migration as a determinant of population change, literacy, health, occupational structure and national population policy: adolescents as under-served population group with special needs.</p>	<p>To analyse the uneven nature of population distribution and show concern about the large size of our population;</p> <p>To understand the various occupations of people and explain various factors of population change;</p> <p>To explain various dimensions of national policy and understand the needs of adolescents as underserved group.</p> <p>Periods 10</p>
<p><b>Project/Activity</b></p> <ul style="list-style-type: none"> <li>Learners may identify songs, dances, festivals and special food preparations associated with certain seasons in their particular region, and whether they have some commonality with other regions of India.</li> <li>Collection of material by learners on the flora and fauna of the region in which their school is situated. It should include a list of endangered species of the region and also information regarding efforts being made to save them.</li> </ul> <p><b>Posters</b></p> <ul style="list-style-type: none"> <li>River pollution</li> <li>Depletion of forests and ecological imbalance.</li> </ul> <p><b>Note:</b> Other similar activities may be taken up.</p>	

## CLASS X: THEME: INDIA — RESOURCES AND THEIR DEVELOPMENT

Total 50 Periods

Topics	Objectives
<p><i>Resources:</i> Types — natural and human; Need for resource planning.</p> <p><i>Natural Resources:</i> Land as a resource, soil formation, types and distribution; changing land-use pattern; land degradation and conservation measures.</p>	<p>To understand the value of resources and the need for their judicious utilisation and conservation.</p> <p>Periods 8</p>



Topics	Objectives
<i>Forest and wildlife resources:</i> Types and distribution, depletion of flora and fauna; conservation and protection of forests and wildlife.	To understand the importance of forests and wildlife in our environment as well as develop concern towards depletion of resources. <b>Periods 6</b>
<i>Agriculture:</i> Types of farming, major crops, cropping pattern, technological and institutional reforms; their impact; contribution of Agriculture to national economy — employment and output, food security, impact of globalisation.	To identify various types of farming and discuss the various farming methods; To describe the spatial distribution of major crops as well as understand the relationship between rainfall regimes and cropping pattern; To explain various government policies for institutional as well as technological reforms since independence; To understand the importance of agriculture in national economy. <b>Periods 10</b>
<i>Water resources:</i> Sources, distribution, utilisation, multi-purpose projects, water scarcity, need for conservation and management, rainwater harvesting. (One case study to be introduced)	To understand the importance of water as a resource as well as develop awareness towards its judicious use and conservation. <b>Periods 6</b>
<i>Mineral Resources:</i> Types of minerals, distribution, use and economic importance of minerals, conservation.	To discuss various types of minerals as well as their uneven nature of distribution and explain the need for their judicious utilisation. <b>Periods 5</b>
<i>Power Resources:</i> Types of power resources — conventional and non-conventional, distribution and utilization, and conservation.	To discuss various types of conventional and non-conventional resources and their utilization. <b>Periods 5</b>
<i>Manufacturing Industries:</i> Types, spatial distribution, contribution to industries to the national economy, industrial pollution and degradation of environment, measures to control degradation. (One case study to be introduced)	To discuss the importance of industries in the national economy as well as understand the regional disparities which resulted due to concentration of industries in some areas; To discuss the need for a planned industrial development and debate over the role of government towards sustainable development. <b>Periods 5</b>



Topics	Objectives
Transport, communication and trade.	To explain the importance of transport and communication in the ever shrinking world; To understand the role of trade in the economic development of a country and analyse the changing.
Periods 5	
<b>Project/Activity</b>	
<ul style="list-style-type: none"> <li>Learners may collect photographs of typical rural houses, and clothing of people from different regions of India and examine whether they reflect any relationship with the climatic conditions and relief of the area.</li> <li>Learners may write a brief report on various irrigation practices in the village and the change in cropping pattern in the last decade.</li> </ul>	
<b>Posters</b>	
<ul style="list-style-type: none"> <li>Pollution of water in the locality.</li> <li>Depletion of forests and the greenhouse effect.</li> </ul>	
<b>Note:</b> Other similar activities may be taken up.	

# POLITICAL SCIENCE (CLASSES IX-X)

## Rationale

Secondary stage provides the last opportunity to *all* the students to engage with Social Sciences. Following an elementary introduction to the Social and Political life and functioning of Indian democracy in Classes VI to VIII, the process of understanding, critical reflection and analysis of the political life will be taken to a higher level at the secondary stage. Political Science at this stage will introduce the young citizens to the political phenomenon by taking up the central theme of democratic politics. This course shall draw upon from the various sub-disciplines of political science — political theory, contemporary world, Indian constitution and Indian government and politics — but from the vantage point of democracy. The course seeks to introduce the students to the Constitution of India, without getting into technicalities of the constitutional provisions. The course has been structured to give students a basic orientation and opportunities to reflect and debate on their own experiences and values in relation to the Indian Constitution and democratic politics. It would further develop their capacities and skills to weave interconnections between the personal and the political.

## Objectives

The specific objectives of the course, where it is not clear from the rationale of the approach, are indicated beside the themes to be taught in the course.



Themes	Learning Objectives
<b>1. Democracy in contemporary world</b> How has democracy expanded in the world in recent times? In which ways has this expansion changed the world? Is this expansion changing democracy itself? Are we moving towards global democracy?	<ul style="list-style-type: none"> <li>• Develop a comparative historical sense of the spread of democracy.</li> <li>• Analyse the functioning of global institutions such as UN.</li> <li>• Skills of comparison and evaluation.</li> </ul>
<b>2. What is democracy? Why democracy?</b> What are the different ways of defining democracy? Why has democracy become the most prevalent form of government in our times? What are the alternatives to democracy? Is democracy superior to its available alternatives? Must every democracy have the same institutions and values?	<ul style="list-style-type: none"> <li>• Develop conceptual skills of defining democracy.</li> <li>• Understand how different historical processes and forces have promoted democracy.</li> <li>• Developing a sophisticated defence of democracy against common prejudices.</li> </ul>
<b>3. Designing of democracy in India</b> How and why did India become a democracy? How was the Indian constitution framed? What are the salient features of the Constitution? How is democracy being constantly designed and redesigned in India?	<ul style="list-style-type: none"> <li>• Develop a historical sense of the choice and nature of democracy in India.</li> <li>• Introduction to the process of Constitution making.</li> <li>• Develop respect for the Constitution and appreciation for Constitutional values.</li> <li>• Recognise that constitution is a living document that undergoes changes.</li> </ul>
<b>4. Electoral politics in democracy</b> Why and how do we elect representatives? Why do we have a system of competition among political parties? How has the citizens' participation in electoral politics changed? What are the ways to ensure free and fair elections?	<ul style="list-style-type: none"> <li>• Introduce the idea of representative democracy via competitive party politics.</li> <li>• Familiarise with our electoral system and reasons for choosing this.</li> <li>• Develop an appreciation of citizen's increased participation in electoral politics.</li> <li>• Recognise the significance of the Election Commission.</li> </ul>
<b>5. Institutions of parliamentary democracy</b> How is the country governed? What does Parliament do in our democracy? What is the role of the President	<ul style="list-style-type: none"> <li>• Provide an overview of central governmental structures.</li> </ul>



Themes	Learning Objectives
of India, the Prime Minister and the Council of Ministers? How do these relate to one another?	<ul style="list-style-type: none"> <li>• Sensitise to the key role of the Parliament and its procedures.</li> <li>• Distinguish between nominal and real executive authorities and functions.</li> <li>• Understand the parliamentary system of executive's accountability to the legislature.</li> </ul>
<b>6. Citizens' rights in democracy</b> Why do we need rights in a Constitution? What are the Fundamental Rights enjoyed by the citizen under the Indian Constitution? How does the judiciary protect the Fundamental Rights of the citizen? How is the independence of the judiciary ensured?	<ul style="list-style-type: none"> <li>• Develop a citizens' awareness of their rights.</li> <li>• Introduction to and appreciation of the Fundamental Rights.</li> <li>• Recognition of the ways in which these rights are exercised and denied in real life situations.</li> <li>• Introduction to judicial system and key institutions like the Supreme Court, High Courts and National Human Rights Commission.</li> </ul>

## CLASS X: DEMOCRATIC POLITICS II

(Total 50 Periods)

Themes	Learning Objectives
<b>1. Working of democracy</b> Are divisions inherent to the working of democracy? What has been the effect of caste on politics and of politics on caste? How has the gender division shaped politics? How do communal divisions affect democracy?	<ul style="list-style-type: none"> <li>• Analyse the relationship between social cleavages and political competition with reference to Indian situation.</li> <li>• Understand and analyse the challenges posed by communalism to Indian democracy.</li> <li>• Understand the enabling and disabling effects of caste and ethnicity in politics.</li> <li>• Develop a gender perspective on politics.</li> </ul>
<b>2. Power sharing mechanisms in democracy</b> Why and how is power shared in democracies? How has federal division of power in India helped national unity? To what extent has decentralisation achieved this	<ul style="list-style-type: none"> <li>• Introduce students to the centrality of power sharing in democracies.</li> <li>• Understand the working of spatial and social power sharing mechanisms.</li> </ul>



Themes	Learning Objectives
objective? How does democracy accommodate different social groups?	<ul style="list-style-type: none"> <li>Analyse federal provisions and institutions.</li> <li>Understand the new Panchayati Raj institutions in rural and urban areas.</li> </ul>
<b>3. Competition and contestations in democracy</b> How do struggles shape democracy in favour of ordinary people? What role do political parties play in competition and contestation? Which are the major national and regional parties in India? Why have social movements come to occupy larger role in politics?	<ul style="list-style-type: none"> <li>Understand the vital role of struggles in the expansion of democracy.</li> <li>Analyse party systems in democracies.</li> <li>Introduction to major political parties in the country.</li> <li>Analyse the role of social movements and non-party political formations.</li> </ul>
<b>4. Outcomes of democracy</b> Can or should democracy be judged by its outcomes? What outcomes can one reasonably expect of democracies? Does democracy in India meet these expectations? Has democracy led to development, security and dignity for the people? What sustains democracy in India?	<ul style="list-style-type: none"> <li>Introduction to the difficult question of evaluating the functioning of democracies.</li> <li>Develop the skills of evaluating Indian democracy on some key dimensions: development, security and dignity for the people.</li> <li>Understand the causes for continuation of democracy in India.</li> </ul>
<b>5. Challenges to democracy</b> Is the idea of democracy shrinking? What are the major challenges to democracy in India? How can democracy be reformed and deepened? What role can an ordinary citizen play in deepening democracy?	<ul style="list-style-type: none"> <li>Distinguish between sources of strength and weaknesses of Indian democracy.</li> <li>Reflect on the different kinds of measures possible to deepen democracy.</li> <li>Promote an active and participatory citizenship.</li> </ul>

## ECONOMICS (CLASSES IX-X)

### Rationale

Human beings engage in a variety of activities to make a living. These activities constitute foundation of economic life. The learning opportunities in schools will have to enable the children to trace the chain of these activities that finally result in their families coming to have the items that needed for their day-to-day living such as food, clothing, books etc.



Keeping this in view, when the children reach upper primary stage, they are introduced to the idea of plurality of economic institutions. Though there are a variety of economic institutions they come into contact in their day-to-day life, only a few of them (family, market and state) would be introduced in a simple way.

At secondary stage, they need to be facilitated to see that the institutional framework of the economy frequently undergoes changes. The changing patterns of what has been happening in the economy may be illustrated through a few economic themes and institutions. Some of them are poverty, food security, globalisation, money and banking system and the role of service sector. This would take the learner and the teacher to discuss issues relating to the nature of ownership and utilization of resources, inequalities etc., emphasizing the normative nature of economics and the role of economic policies.

Children should also know that economic problems can be and should be viewed from different perspectives. The perspectives of households and business units, for instance, may not be the same. If so, the national perspective on economic problems cannot be the same as that of households, business concerns or other organisations. By providing different points of view analytically, the discussion of themes identified for this stage equip the learners in acquiring analytical skills and at the same time develop perspectives. By exposing the children to study how men and women are placed in all these themes and institutions, the economics education at this stage is also expected to sensitise the child from gender perspective.

## Objectives

At this stage, economics is introduced as a separate unit and discipline but forms part of the composite Social Science course, which include topics from other disciplines such as history, geography and political science. The National Curriculum Framework — 2005 has suggested studying economics from the perspective of the masses. Majority of themes for this stage have been chosen accordingly. In Class IX, four themes were identified whereas in Class X, five themes are identified.

The specific objectives of the syllabus are mentioned along with the course contents.

# IX ECONOMICS CLASS IX

(Total Periods: 50)

Themes	Objectives
<b>Theme I</b> <i>The Economic Story of Palampore:</i> Economic transactions of Palampore and its interaction with the rest of the world through which the concept of production	Familiarising the children with some basic economic concepts through an imaginary story of a village Periods: 14



Themes	Objectives
including three factors of production (land, labour and capital) can be introduced.	
<b>Theme II</b> <i>People as Resource</i> : Introduction of how people become resource/asset; economic activities done by men and women; unpaid work done by women; quality of human resource – role of health and education; unemployment as a form of nonutilisation of human resource – socio-political implication in simple form.	Familiarisation of a few population related concepts and sensitization of child that people as asset and can participate and contribute in nation building. <b>Periods: 12</b>
<b>Theme III</b> <i>Poverty as a Challenge Facing India</i> : Who is poor (through two case studies – rural and urban); indicators; absolute poverty (not as a concept but through a few simple examples) – why people are poor – unequal distribution of resources; comparison between countries; steps taken by government for poverty alleviation.	Understanding of poverty as a challenge and sensitization of the learner; Appreciation of the government initiative to alleviate poverty. <b>Periods: 12</b>
<b>Theme IV</b> <i>Food Security</i> : Source of foodgrains – variety – across the nation – famines in the past – the need for self sufficiency – role of government in food security – procurement of foodgrains – overflowing of granaries and people without food – public distribution system – role of cooperatives in food security (foodgrains, milk and vegetables – ration shops, cooperative shops, two-three examples as case studies)	<ul style="list-style-type: none"> <li>• Exposing the child to an economic issue which is basic necessities of life;</li> <li>• Appreciate and critically look at the role of government in ensuring food supply</li> </ul> <b>Periods : 12</b>
<b>Suggested Activities/Instructions</b> <b>Theme I:</b> Give more examples of activities done by different workers and farmers. Numerical problems can also be included. Some of the ways through which description of villages are available in the writings of Prem Chand, MN Srinivas and RK Narayan. They may have to be referred.	



**Theme II:** Discuss the impact of unemployment.

Debate on whether all the activities done by women should be included or not. Why? Is begging an economic activity? Discuss. Is it necessary to reduce population growth or family size? Discuss.

**Theme III:** Visit a few farms in a village and collect the details of foodgrains cultivated;

Visit a nearby ration shop and collect the details of goods available;

Visit a regulated market yard and observe how goods are transacted and get the details of the places where the goods come and go.

## X ECONOMICS CLASS X

(Total Periods: 50)

Themes	Objectives
<p><b>Theme I</b></p> <p><i>The Story of Development:</i> The traditional notion of development – National Income and Per-capita Income – Growth of NI – critical appraisal of existing development indicators (PCI, IMR, SR and other income and health indicators) – The need for health and educational development – Human Development Indicators (in simple and brief) as a holistic measure of development.</p> <p><i>The approach to this theme:</i> Use case study of three states (Kerala, Punjab and Bihar) or take a few countries (India, China, Sri Lanka and one developed country).</p>	<ul style="list-style-type: none"> <li>Familiarisation of some macroeconomic concepts.</li> <li>Sensitizing the child about the rationale for overall human development in our country, which include the rise of income, improvements in health and education rather than income.</li> <li>It is necessary to raise question in minds of the children whether the increase in income alone is not sufficient for a nation?</li> <li>How and why people should be healthy and provided with education.</li> </ul> <p style="text-align: right;"><b>Periods: 10</b></p>
<p><b>Theme II</b></p> <p><i>Money and Financial System:</i> Role of money in an economy – Historical Origin; Formal and Informal financial institutions for Savings and Credit – General Introduction; Select one formal institution such as a nationalized commercial bank and a few informal institutions – Local money lenders, landlords, self help groups, chit funds and private finance companies.</p>	<ul style="list-style-type: none"> <li>Familiarize the concept of money as an economic concept;</li> <li>Create awareness of the role of financial institutions from the point of view day-to-day life.</li> </ul> <p style="text-align: right;"><b>Periods: 10</b></p>



Themes	Objectives
<b>Theme III</b> <i>The Role of Service Sector in Indian Economy:</i> What is service sector (through examples); Importance of Service Sector in generating Employment and Income to the nation (with the help of a few case studies); Growth of Service Sector in India; India as a major service provider to the world; The need for public investment – The role of important infrastructure – education and health.	<ul style="list-style-type: none"> <li>To make aware of a major employment generating sector.</li> <li>Sensitise the learner of how and why governments invest in such an important sector.</li> </ul> <p>Periods: 10</p>
<b>Theme IV</b> <i>Globalisation:</i> What is Globalisation (through some simple examples); How India is being globalised and why – Development Strategy prior to 1991 – State Control of Industries: Textile goods as an example for elaboration; Economic Reforms 1991; Strategies adopted in Reform measures (easing of capital flows; migration, investment flows); Different perspectives on globalisation and its impacts on different sectors; Political Impacts of globalisation.	<ul style="list-style-type: none"> <li>Provide children some idea about how a particular economic phenomenon is influencing their surroundings and day-to-day life.</li> </ul> <p>Periods: 10</p>
<b>Theme V</b> <i>Consumer Awareness:</i> How consumer is exploited (one or two simple case studies) – factors causing exploitation of consumers – Rise of consumer awareness – how a consumer should be in a market – role of government in consumer protection.	<ul style="list-style-type: none"> <li>Making the child aware of his or her rights and duties as a consumer;</li> <li>Familiarizing the legal measures available to protect from being exploited in markets.</li> </ul> <p>Periods: 10</p>
<b>Suggested Activities/Instructions</b> <b>Theme II:</b> Visit to banks and money lenders/pawnbrokers and discuss various activities that you have observed in banks in the classroom; Participate in the meetings of self help groups, which engaged in micro credit schemes in the locality of learners and observe issues discussed. <b>Theme IV:</b> Provide many examples of service sector activities; Use numerical examples, charts and photographs. <b>Theme V:</b> Collect logos of standards available for various goods and services; Visit a consumer court nearby and discuss in the class the proceedings; Collect stories of consumer exploitation and grievances from news papers and consumer courts.	



### Rationale

These classes will introduce students to the idea that historical knowledge develops through debates and that sources need to be carefully read and interpreted. As the learners have been introduced to chronologically ordered histories of India in Classes VI to VIII, these histories will not be repeated within the same format in Classes XI and XII. Instead, the focus would be on certain select themes, which will be examined in some depth.

Through a focus on a series of critical historical issues and debates (Class XI) or on a range of important historical sources (Class XII), the students would be introduced to a set of important historical events and processes. A discussion of these themes, it is hoped, would allow students not only to know about these events and processes, but also to discover the excitement of doing history.

### Objectives

- The effort in these senior secondary classes would be to emphasise to students that history is a critical discipline, a process of enquiry, a way of knowing about the past, rather than just a collection of facts. The syllabus would help them understand the process through which historians write history, by choosing and assembling different types of evidence, and by reading their sources critically. They will appreciate how historians follow the trails that lead to the past, and how historical knowledge develops.
- The syllabus would also enable students to relate/compare developments in different situations, analyse connection between similar processes located in different time periods, and discover the relationship between different methods of social enquiry within different social sciences.
- The syllabus in Class XI is organised around some major themes in world history. The themes have been selected so as to (i) focus on some important developments in different spheres — political, social, cultural and economic, (ii) study not only the grand narratives of development — urbanisation, industrialisation and modernisation — but also to know about the processes of displacements and marginalisation. Through the study of these themes students will acquire a sense of the wider historical processes as well as an idea of the specific debates around them.
- The treatment of each theme in Class XI would include (a) a broad picture of the theme under discussion, (b) a more detailed focus on one region of study, (c) an introduction to a critical debate associated with the issue.
- In Class XII the focus will shift to a detailed study of some themes in Ancient, Medieval and Modern Indian history. The objective would be to study a set of these themes in some detail and depth rather than survey the entire chronological span of Indian history. In this sense the course will build on the knowledge that the students have acquired in the earlier classes.
- Each theme in Class XII will also introduce the student to one type of source for the study of history. Through such a study students would begin to see what different types of sources can reveal and what they cannot tell. They would come to know how historians analyse these sources, the problems and difficulties of interpreting each type of source, and the way a larger



picture of an event, a historical process, or a historical figure, is built by looking at different types of sources.

- Each theme for Class XII will be organised around four subheads: (a) a detailed overview of the events, issues and processes under discussion, (b) a summary of the present state of research on the theme, (c) an account of how knowledge about the theme has been acquired, (d) an excerpt from a primary source related to the theme, explaining how it has been used by historians.
- While the themes in both these classes (XI and XII) are arranged in a broad chronological sequence, there are overlaps between them. This is intended to convey a sense that chronological divides and periodisation do not always operate in a neat fashion.
- In the textbooks each theme would be located in a specific time and place, but these discussions would be situated within a wider context by (a) plotting the specific event within time-lines, (b) discussing the particular event or process in relation to developments in other places and other times.

## CLASS XI: THEMES IN WORLD HISTORY

(Total 50 Periods)

Themes	Objectives
<b>I: Early Societies</b>	
<b>1. From the Beginning of Time</b> <i>Focus:</i> Africa, Europe till 15000 BC (a) Views on the origin of human beings. (b) Early societies. Debate on present-day hunter-gatherer societies.	<ul style="list-style-type: none"> <li>• Familiarise the learner with ways of reconstructing human evolution.</li> <li>• Discuss whether the experience of present-day hunting-gathering peoples can be used to understand early societies.</li> </ul>
<b>2. Early Cities</b> <i>Focus:</i> Iraq, 3rd millennium BC (a) Growth of towns. (b) Nature of early urban societies. Debate on uses of writing	<ul style="list-style-type: none"> <li>• Familiarise the learner with the nature of early urban centres.</li> <li>• Discuss whether writing is significant as a marker of civilization.</li> </ul>
<b>II: Empires</b>	
<b>3. An Empire across Three Continents</b> <i>Focus:</i> Roman Empire, 27 BC to AD 600. (a) Political evolution (b) Economic expansion (c) Religion (d) Late Antiquity. Debate on the institution of slavery.	<ul style="list-style-type: none"> <li>• Familiarise the learner with the history of a major world empire.</li> <li>• Discuss whether slavery was a significant element in the economy.</li> </ul>



Themes	Objectives
<p><b>4. Central Islamic Lands</b>  <i>Focus:</i> 7th to 12th centuries.</p> <p>(a) Polity  (b) Economy  (c) Culture.  Debate on the nature of the crusades.</p> <p><b>5. Nomadic Empires</b>  <i>Focus:</i> the Mongol, 13th to 14th century</p> <p>(a) The nature of nomadism.  (b) Formation of empires.  (c) Conquests and relations with other states.  Debate on nomadic societies and state formation.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with the rise of Islamic empires in the Afro-Asian territories and its implications for economy and society.</li> <li>Understand what the crusades meant in these regions and how they were experienced.</li> <li>Familiarise the learner with the varieties of nomadic society and their institutions.</li> <li>Discuss whether state formation is possible in nomadic societies.</li> </ul>
<p><b>III: Changing Traditions</b></p>	
<p><b>6. Three Orders</b>  <i>Focus:</i> Western Europe, 9th-16th century</p> <p>(a) Feudal society and economy.  (b) Formation of states.  (c) Church and society.  Debate on decline of feudalism.</p> <p><b>7. Changing Cultural Traditions</b>  <i>Focus</i> on Europe, 14th to 17th century.</p> <p>(a) New ideas and new trends in literature and arts.  (b) Relationship with earlier ideas  (c) The contribution of West Asia.  Debate: Is the notion 'European Renaissance' valid?</p> <p><b>8. Confrontation of Cultures</b>  <i>Focus</i> on the Americas, 15th to 18th century.</p> <p>(a) European voyages of exploration.  (b) Search for gold; enslavement, raids, extermination.  (c) Indigenous peoples and cultures – the Arawaks, the Aztecs, the Incas.  (d) The history of displacements.  Debate on the slave trade.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with the nature of the economy and society of this period and the changes within them.</li> <li>Show how the debate on the decline of feudalism helps in understanding processes of transition.</li> <li>Explore the intellectual trends in the period.</li> <li>Familiarize students with the paintings and buildings of the period.</li> <li>Introduce the debate around the idea of 'Renaissance'.</li> <li>Discuss changes in European economy that led to the voyages.</li> <li>Discuss the implications of the conquests for the indigenous people.</li> <li>Explore the debate on the nature of the slave trade and see what this debate tells us about the meaning of these "discoveries".</li> </ul>



Themes	Objectives
<p><b>IV: Paths to Modernisation</b></p> <p><b>9. Displacing Indigenous Peoples</b> Focus on North America and Australia, 18th-20th century.</p> <ul style="list-style-type: none"> <li>(a) European colonists in North America and Australia.</li> <li>(b) Formation of white settler societies.</li> <li>(c) Displacement and repression of local people. Debate on the impact of European settlement on indigenous populations.</li> </ul> <p><b>10. The Industrial Revolution</b> Focus on England, 18th and 19th century.</p> <ul style="list-style-type: none"> <li>(a) Innovations and technological change.</li> <li>(b) Patterns of growth.</li> <li>(c) Emergence of a working class.</li> </ul> <p>Debate: Was there an Industrial Revolution?</p> <p><b>11. Paths to Modernization</b> Focus on East Asia. Late 19th and 20th century.</p> <ul style="list-style-type: none"> <li>(a) Militarization and economic growth in Japan.</li> <li>(b) China and the Communist alternative.</li> </ul> <p>Debate on the meaning of Modernisation.</p>	<ul style="list-style-type: none"> <li>• Sensitise students to the processes of displacements that accompanied the development of America and Australia.</li> <li>• Understand the implications of such processes for the displaced populations.</li> <li>• Understand the nature of growth in the period and its limits.</li> <li>• Initiate students to the debate on the idea of industrial revolution.</li> <li>• Make students aware that transformation in the modern world takes many different forms.</li> <li>• Show how notions like 'modernisation' need to be critically assessed.</li> </ul>

## CLASS XII: THEMES IN INDIAN HISTORY

(Total 50 Periods)

Themes	Objectives
<p><b>The Story of the First Cities: Harappan Archaeology</b></p> <p><i>Broad overview:</i> Early urban centres. <i>Story of discovery:</i> Harappan civilization. <i>Excerpt:</i> Archaeological report on a major site. <i>Discussion:</i> how it has been utilized by archaeologists/historians.</p>	<ul style="list-style-type: none"> <li>• Familiarise the learner with early urban centres as economic and social institutions.</li> <li>• Introduce the ways in which new data can lead to a revision of existing notions of history.</li> <li>• Illustrate how archaeological reports are analysed and interpreted by scholars.</li> </ul>



Themes	Objectives
<p><b>Political and Economic History:</b>  <b>How Inscriptions tell a story</b></p> <p><i>Broad overview:</i> Political and economic history from the Mauryan to the Gupta period.</p> <p><i>Story of discovery:</i> Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history.</p> <p><i>Excerpt:</i> Asokan inscription and Gupta period land grant.</p> <p><i>Discussion:</i> Interpretation of inscriptions by historians.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with major trends in the political and economic history of the subcontinent from c. 4th century BCE to c. 5th century CE.</li> <li>Introduce inscriptional analysis and the ways in which these have shaped the understanding of political and economic processes.</li> </ul>
<p><b>Social Histories: Using the Mahabharata</b></p> <p><i>Broad overview:</i> Issues in social history, including caste, class, kinship and gender.</p> <p><i>Story of discovery:</i> Transmission and publications of the Mahabharata.</p> <p><i>Excerpt:</i> From the Mahabharata, illustrating how it has been used by historians.</p> <p><i>Discussion:</i> Other sources for reconstructing social history.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with issues in social history.</li> <li>Introduce strategies of textual analysis and their use in reconstructing social history.</li> </ul>
<p><b>A History of Buddhism: Sanchi Stupa</b></p> <p><i>Broad overview:</i></p> <p>(a) A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism.</p> <p>(b) Focus on Buddhism.</p> <p><i>Story of discovery:</i> Sanchi stupa.</p> <p><i>Excerpt:</i> Reproduction of sculptures from Sanchi.</p> <p><i>Discussion:</i> Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism.</p>	<ul style="list-style-type: none"> <li>Discuss the major religious developments in early India.</li> <li>Introduce strategies of visual analysis and their use in reconstructing histories of religion.</li> </ul>
<p><b>Agrarian Relations: The Ain-i- Akbari</b></p> <p><i>Broad overview:</i></p> <p>(a) Structure of agrarian relations in the 16th and 17th centuries.</p>	<ul style="list-style-type: none"> <li>Discuss developments in agrarian relations</li> <li>Discuss how to supplement official documents with other sources.</li> </ul>



Themes	Objectives
<p>(b) Patterns of change over the period.</p> <p><i>Story of Discovery:</i> Account of the compilation and translation of Ain-i-Akbari.</p> <p><i>Excerpt:</i> From the Ain-i-Akbari.</p> <p><i>Discussion:</i> Ways in which historians have used the text to reconstruct history.</p>	<ul style="list-style-type: none"> <li>• Discuss developments in agrarian relations.</li> <li>• Discuss how to supplement official documents with other sources.</li> </ul>
<p><b>The Mughal Court: Reconstructing Histories through Chronicles</b></p> <p><i>Broad Overview:</i></p> <p>(a) Outline of political history c. 15th-17th centuries.</p> <p>(b) Discussion of the Mughal court and politics.</p> <p><i>Story of Discovery:</i> Account of the production of court chronicles, and their subsequent translation and transmission.</p> <p><i>Excerpts:</i> from the <i>Akbarnama</i> and <i>Padshabnama</i>.</p> <p><i>Discussion:</i> Ways in which historians have used the texts to reconstruct political histories.</p>	<ul style="list-style-type: none"> <li>• Familiarise the learner with the major landmarks in political history.</li> <li>• Show how chronicles and other sources are used to reconstruct the histories of political institutions.</li> </ul>
<p><b>New Architecture: Hampi</b></p> <p><i>Broad Overview:</i></p> <p>(a) Outline of new buildings during Vijayanagar period — temples, forts, irrigation facilities.</p> <p>(b) Relationship between architecture and the political system.</p> <p><i>Story of Discovery:</i> Account of how Hampi was found.</p> <p><i>Excerpt:</i> Visuals of buildings at Hampi.</p> <p><i>Discussion:</i> Ways in which historians have analysed and interpreted these structures.</p>	<ul style="list-style-type: none"> <li>• Familiarise the learner with the new buildings that were built during the time.</li> <li>• Discuss the ways in which architecture can be analyzed to reconstruct history.</li> </ul>
<p><b>Religious Histories: The Bhakti-Sufi Tradition</b></p> <p><i>Broad Overview:</i></p> <p>(a) Outline of religious developments during this period.</p> <p>(b) Ideas and practices of the Bhakti-Sufi saints.</p> <p><i>Story of Transmission:</i> How Bhakti-Sufi compositions have been preserved.</p>	<ul style="list-style-type: none"> <li>• Familiarise the learner with religious developments.</li> <li>• Discuss ways of analysing devotional literature as sources of history.</li> </ul>



Themes	Objectives
<p><i>Excerpt:</i> Extracts from selected Bhakti Sufi works.</p> <p><i>Discussion:</i> Ways in which these have been interpreted by historians.</p>	
<p><b>Medieval Society through Travellers' Accounts</b></p> <p><i>Broad Overview:</i> Outline of social and cultural life as they appear in travellers' accounts.</p> <p><i>Story of their writings:</i> A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.</p> <p><i>Excerpts:</i> from Alberuni, Ibn Batuta, Bernier.</p> <p><i>Discussion:</i> What these travel accounts can tell us and how they have been interpreted by historians.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with the salient features of social histories described by the travellers.</li> <li>Discuss how travellers' accounts can be used as sources of social history.</li> </ul>
<p><b>Colonialism and Rural Society: Evidence from Official Reports</b></p> <p><i>Broad overview:</i></p> <ol style="list-style-type: none"> <li>Life of zamindars, peasants and artisans in the late 18<sup>th</sup> century.</li> <li>East India Company, revenue settlements and surveys.</li> <li>Changes over the nineteenth century.</li> </ol> <p><i>Story of official records:</i> An account of why official investigations into rural societies were undertaken and the types of records and reports produced.</p> <p><i>Excerpts:</i> From Firminger's <i>Fifth Report</i>, Accounts of Francis Buchanan-Hamilton, and Deccan Riots Report.</p> <p><i>Discussion:</i> What the official records tell and do not tell, and how they have been used by historians.</p>	<ul style="list-style-type: none"> <li>Discuss how colonialism affected zamindars, peasants and artisans.</li> <li>Understand the problems and limits of using official sources for understanding the lives of people.</li> </ul>
<p><b>Representations of 1857</b></p> <p><i>Broad Overview:</i></p> <ol style="list-style-type: none"> <li>The events of 1857-58.</li> <li>How these events were recorded and narrated.</li> </ol> <p><i>Focus:</i> Lucknow.</p>	<ul style="list-style-type: none"> <li>Discuss how the events of 1857 are being reinterpreted.</li> <li>Discuss how visual material can be used by historians.</li> </ul>



Themes	Objectives
<p><i>Excerpts:</i> Pictures of 1857. Extracts from contemporary accounts.</p> <p><i>Discussion:</i> How the pictures of 1857 shaped British opinion of what had happened.</p>	
<p><b>Colonialism and Indian Towns:</b></p> <p><b>Town Plans and Municipal Reports</b></p> <p><i>Broad Overview:</i> The growth of Mumbai, Chennai, hill stations and cantonments in the 18<sup>th</sup> and 19<sup>th</sup> century.</p> <p><i>Excerpts:</i> Photographs and paintings. Plans of cities. Extract form town plan reports. Focus on Kolkata town planning.</p> <p><i>Discussion:</i> How the above sources can be used to reconstruct the history of towns. What these sources do not reveal.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with the history of modern urban centres.</li> <li>Discuss how urban histories can be written by drawing on different types of sources.</li> </ul>
<p><b>Mahatma Gandhi through Contemporary Eyes</b></p> <p><i>Broad Overview:</i></p> <p>(a) The nationalist movement 1918-48, (b) The nature of Gandhian politics and leadership.</p> <p><i>Focus:</i> Mahatma Gandhi in 1931.</p> <p><i>Excerpts:</i> Reports from English and Indian language newspapers and other contemporary writings.</p> <p><i>Discussion:</i> How newspapers can be a source of history.</p>	<ul style="list-style-type: none"> <li>Familiarise the learner with significant elements of the nationalist movement and the nature of Gandhian leadership.</li> <li>Discuss how Mahatma Gandhi was perceived by different groups.</li> <li>Discuss how historians need to read and interpret newspapers, dairies and letters as historical source.</li> </ul>
<p><b>Partition through Oral Sources</b></p> <p><i>Broad Overview:</i></p> <p>(a) The history of the 1940s; (b) Nationalism, Communalism and Partition.</p> <p><i>Focus:</i> Punjab and Bengal.</p> <p><i>Excerpts:</i> Oral testimonies of those who experienced partition.</p> <p><i>Discussion:</i> Ways in which these have been analysed to reconstruct the history of the event.</p>	<ul style="list-style-type: none"> <li>Discuss the last decade of the national movement, the growth of communalism and the story of Partition.</li> <li>Understand the events through the experience of those who lived through these years of communal violence.</li> <li>Show the possibilities and limits of oral sources.</li> </ul>



Themes	Objectives
<p><b>The Making of the Constitution</b></p> <p><i>Broad Overview:</i></p> <p>(a) Independence and the new nation state.</p> <p>(b) The making of the Constitution.</p> <p><i>Focus:</i> The Constitutional Assembly debates.</p> <p><i>Excerpts:</i> From the debates.</p> <p><i>Discussion:</i> What such debates reveal and how they can be analyzed.</p>	<ul style="list-style-type: none"> <li>Familiarise students with the history of the early years after independence.</li> <li>Discuss how the founding ideals of the new nation state were debated and formulated.</li> <li>Understand how such debates and discussions can be read by historians.</li> </ul>

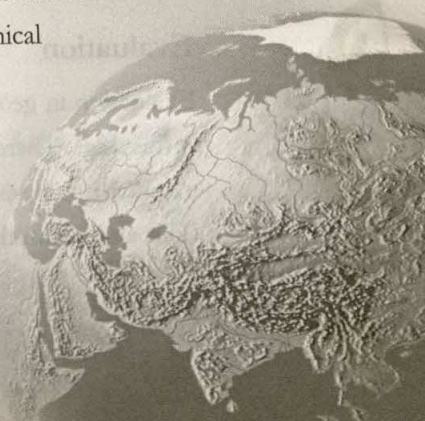
# GEOGRAPHY (CLASSES XI-XII)

## Rationale

Geography is introduced as an elective subject at the higher secondary stage. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigours of the discipline for the first time. Being an entry point for the higher education, students choose geography for pursuing their academic interest and, therefore, need a broader and deeper understanding of the subject. For others, geographical knowledge is useful in daily lives because it is a valuable medium for the education of young people. Its contributions lie in the content, cognitive processes, skills and values that geography promotes and thus helps the students explore, understand and evaluate the environmental and social dimensions of the world in a better manner.

Since geography explores the relationship between people and their environment, it includes studies of physical and human environments and their interactions at different scales — local, state/region, nation and the world. The fundamental principles responsible for the varieties in the distributional pattern of physical and human features and phenomena over the earth's surface need to be understood properly. Application of these principles would be taken up through selected case studies from the world and India. Thus, the physical and human environment of India and study of some issues from a geographical point of view will be covered in greater detail. Students will be exposed to different methods used in geographical investigations.

Common Core Components (NPE 1986) such as India's common cultural heritage, equality of sexes, protection of environment, observance of the small family norm and inculcation of scientific temper will be reflected in the geography syllabus.





The geography course will incorporate some issues of NCF – 2005 such as making children sensitive to environment and its protection to nurture and preserve the environment, and using geographical knowledge in understanding various environmental and socio-economic issues of the community, region and the country, e.g. gender and marginalised groups.

## Objectives

The course in geography will help learners:

- Familiarise themselves with the terms, key concepts and basic principles of geography;
- Search for, recognise and understand the processes and patterns of the spatial arrangement of the natural as well as human features and phenomena on the earth's surface;
- Understand and analyse the inter-relationship between physical and human environments and their impact;
- Apply geographical knowledge and methods of inquiry to new situations or problems at different levels — local/regional, national and global;
- Develop geographical skills, relating to collection, processing and analysis of data/information and preparation of report including maps and graphics and use of computers wherever possible; and
- Utilize geographical knowledge in understanding issues concerning the community such as environmental issues, socio-economic concerns, gender and become responsible and effective member of the community.

## Course Structure

### Class XI

- |                                       |            |
|---------------------------------------|------------|
| A. Fundamentals of Physical Geography | Periods 88 |
| B. India – Physical Environment       | Periods 78 |
| C. Practical Work (Unit I and II)     | Periods 54 |

### Class XII

- |                                    |            |
|------------------------------------|------------|
| A. Fundamentals of Human Geography | Periods 85 |
| B. India – People and Economy      | Periods 85 |
| C. Practical Work (Unit I and II)  | Periods 50 |

**Note:** There will be six textbooks, two for theory and one for practical work for each class.

## Evaluation

Evaluation in geography should be based on the objectives of geography that are to be realised at this stage. There is a need to introduce continuous and comprehensive evaluation in a systematic manner. Emphasis is to be given on evaluating learners' progress in acquiring various geographical skills along with the cognitive areas.



### A. Fundamentals of Physical Geography

(Periods 88)

#### Unit I: Geography as a Discipline

(Periods 6)

- Geography as an integrating discipline, as a science of spatial attributes;
- Branches of geography; importance of physical geography

#### Unit II: The Earth

(Periods 12)

- Origin and evolution of the earth; Interior of the earth; Wegener's continental drift theory and plate tectonics; Earthquakes and volcanoes;

#### Unit III: Landforms

(Periods 20)

- Rocks and minerals – major types of rocks and their characteristics;
- Landforms and their evolution
- Geomorphic processes – weathering, mass wasting, erosion and deposition; soils – formation

#### Unit IV: Climate

(Periods 30)

- Atmosphere – compositions and structure; elements of weather and climate;
- Insolation – angle of incidence and distribution; heat budget of the earth – heating and cooling of atmosphere (conduction, convection, terrestrial radiation, advection); temperature – factors controlling temperature; distribution of temperature – horizontal and vertical; inversion of temperature;
- Pressure – pressure belts; winds – planetary seasonal and local, air masses and fronts; tropical and extra tropical cyclones;
- Precipitation – evaporation; condensation – dew, frost, fog, mist and cloud; rainfall – types and world distribution;
- World climates – classification (Koeppen), greenhouse effect, global warming and climatic changes.

#### Unit V: Water (Oceans)

(Periods 12)

- Hydrological Cycle;+
- Oceans — submarine relief; distribution of temperature and salinity; movements of ocean water—waves, tides and currents.

#### Unit VI: Life on the Earth

(Periods 8)

- Biosphere – importance of plants and other organisms; biodiversity and conservation; ecosystems, bio-geo chemical cycle, and ecological balance.

### B. India – Physical Environment

(Periods 78)

#### Unit I: Introduction

(Periods 6)

- Location – space relations and India's place in the world.



## Unit II: Physiography

(Periods 24)

- Structure and Relief;
- Drainage systems: concept of water sheds: the Himalayan and the Peninsular ;
- Physiographic divisions.

## Unit III: Climate, Vegetation and Soil

(Periods 26)

- Weather and climate – spatial and temporal distribution of temperature, pressure , winds and rainfall; Indian monsoons: mechanism, onset and variability – spatial and temporal; climatic types;
- Natural vegetation – forest types and distribution; wild life; conservation; biosphere reserves;
- Soils – major types (ICAR's classification) and their distribution, soil degradation and conservation.

## Unit IV: Natural Hazards and Disasters: Causes, Consequences and Management (One case study to be introduced for each topic)

(Periods 22)

- Floods and droughts
- Earthquakes and Tsunami
- Cyclones
- Landslides

## C. Practical Work

(Periods 54)

### Unit I : Fundamentals of Maps

(Periods 22)

- Maps – types; scales – types; construction of linear scales, measuring distance, finding direction and use of symbols;
- Latitude, Longitude and time;
- Map projection – typology, construction and properties of conical with one standard parallel and Mercator's projection.

### Unit II : Topographic and Weather Maps

(Periods 32)

- Study of topographic maps (1:50,000 or 1:25,000, Survey of India maps): contour cross section and identification of landforms – slopes hills, valleys, waterfalls, cliffs; distribution of settlements;
- Aerial Photographs and Satellite Images:

*Aerial Photographs:* Types and Geometry – vertical aerial photographs; difference between maps and aerial photographs; photo scale determination.

*Satellite images:* Stages in remote sensing data acquisition, platform and sensors and data products, (photographic and digital)

Interpretation of physical and cultural features from aerial photographs and satellite imageries.

- Use of weather instruments: thermometer, wet and dry-bulb thermometer, barometer, windvane, raingauge.
- Use of weather charts: describing pressure, wind and rainfall distribution.





## A. Fundamentals of Human Geography (Periods 85)

### Unit I: Human Geography: Nature and Scope (Periods 5)

### Unit II: People (Periods 20)

- Population of the world – distribution, density and growth;
- Population change-spatial patterns and structure; determinants of population change;
- Age-sex ratio; rural-urban composition;
- Human development – concept; selected indicators, international comparisons.

### Unit III: Human Activities (Periods 28)

- Primary activities – concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agriculture and allied activities – some examples from selected countries;
- Secondary activities – concept; manufacturing: agro-processing, household, small scale, large scale; people engaged in secondary activities – some examples from selected countries;
- Tertiary activities – concept; trade, transport and communication; services; people engaged in tertiary activities – some examples from selected countries;
- Quaternary activities – concept; knowledge based industries; people engaged in quaternary activities – some examples from selected countries.

### Unit IV: Transport, Communication and Trade (Periods 20)

- Land transport – roads, railways – rail network; trans-continental railways;
- Water transport- inland waterways; major ocean routes;
- Air transport – Intercontinental air routes;
- Oil and gas pipelines;
- Satellite communication and cyber space;
- International trade – Basis and changing patterns; ports as gateways of international trade, role of WTO in International trade.

### Unit V: Human Settlements (Periods 12)

- Settlement types – rural and urban; morphology of cities (case study); distribution of mega cities; problems of human settlements in developing countries.

## B. India: People and Economy (Periods 85)

### Unit I: People (Periods 15)

- Population – distribution, density and growth; composition of population: linguistic and religious; rural-urban population change through time – regional variations; occupation;



- Migration: international, national – causes and consequences;
- Human development – selected indicators and regional patterns;
- Population, environment and development.

## **Unit II: Human Settlements**

(Periods 10)

- Rural settlements – types and distribution;
- Urban settlements – types, distribution and functional classification.

## **Unit III: Resources and Development**

(Periods 30)

- Land resources – general land use; agricultural land use – major crops; agricultural development and problems, common property resources;
- Water resources – availability and utilization – irrigation, domestic, industrial and other uses; scarcity of water and conservation methods – rain water harvesting and watershed management (one case study related with participatory watershed management to be introduced) ;
- Mineral and energy resources – metallic and non-metallic minerals and their distribution; conventional and non-conventional energy sources;
- Industries – types and distribution; industrial location and clustering; changing pattern of selected industries – iron and steel, cotton textiles, sugar, petrochemicals, and knowledge based industries; impact of liberalisation, privatisation and globalisation on industrial location;
- Planning in India – target area planning (case study); idea of sustainable development (case study).

## **Unit IV: Transport, Communication and International Trade**

(Periods 15)

- Transport and communication — roads, railways, waterways and airways; oil and gas pipelines; national electric grids; communication networkings – radio, television, satellite and internet;
- International trade — changing pattern of India's foreign trade; sea ports and their hinterland and airports.

## **Unit V: Geographical Perspective on Selected Issues and Problems**

(One case study to be introduced for each topic)

(Periods 15)

- Environmental pollution; urban-waste disposal;
- Urbanisation-rural-urban migration; problem of slums;
- Land Degradation.

## **C. Practical Work**

(Periods 50)

### **Unit I : Processing of Data and Thematic Mapping**

(Periods 25)

- Sources of data;
- Tabulating and processing of data; calculation of averages, measures of central tendency, deviation and rank correlation;
- Representation of data – construction of diagrams: bars, circles and flowchart; thematic maps; construction of dot; choropleth and isopleth maps.

Use of computers in data processing and mapping.



## Unit II: Field Study or Spatial Information Technology

(Periods 25)

Field visit and study: map orientation, observation and preparation of sketch; survey on any one of the local concerns: pollution, ground water changes, land use and land-use changes, poverty, energy issues, soil degradation, drought and flood impacts (any one topic of local concern may be taken up for the study; observation and questionnaire survey may be adopted for the data collection; collected data may be tabulated and analysed with diagrams and maps).

OR

### *Spatial Information Technology*

Introduction to GIS; hardware requirements and software modules; data formats: raster and vector data, data input, editing and topology building; data analysis; overlay and buffer.

# POLITICAL SCIENCE

## POLITICAL SCIENCE (CLASSES XI-XII)

### *Rationale*

At the higher secondary level students who opt under the Social Sciences/Humanities stream are given an opportunity to get introduced to the diverse concerns of a Political Scientist. At this level course also need to enable students to engage with political process that surrounds them and provide them with an understanding of the historical context that has shaped the present. The different courses introduce the students to the various streams of the discipline of political science: political theory, Indian politics and international politics. Concerns of the other two streams — comparative politics and public administration — are accommodated at different places in these courses. In introducing these streams, special care has been taken not to burden the students with the current jargon of the discipline. The basic idea here is to lay the foundations for a serious engagement with the discipline at the BA stage rather than anticipate the BA syllabi.

### *Objectives*

The specific objectives of the course are indicated in the preamble to the syllabus for each year.

## Course I Class XI: Indian Constitution at Work

### *Course Rationale*

This course seeks to deepen the understanding of the provisions and the working of the Constitution of India for students who have opted for Political Science. Deepening of understanding may require in some cases providing more detailed information about the articles and clauses of the Constitution; but in most parts the course will avoid overemphasis on legal technicalities and seek to focus instead on explaining the rationale and the real life consequences of the constitutional provision. At this stage the student should be initiated into thinking of the Constitution as a



political document that reflects the values of a society at a given point of time. The institutional structure that emanates from the Constitution should be seen as one possible political arrangement that has real life political consequences. The students should also be encouraged to think of the Constitution as a living document that has constantly evolved and is still in the process of further refinement. Accordingly, the course has grouped the constitutional provision under a few themes. Each thematic follows a pattern:

- It takes up the rationale or the underlying philosophy behind that part of Constitution.
- It spells out the constitutional provisions in relevant details (mostly avoiding legal matters of technical interest or the wording and number of the articles and clauses of the Constitution); and
- Discusses how the provisions have actually played out in real life.
- For deepening the understanding of the Constitution and its working, it is proposed to illustrate each course with one example (case law, event or political dispute) from the working of the Constitution in India, and
- An example from outside India to illustrate how the institutional mechanism could have been different from what it is.

This course leads to the course on Politics in India since Independence in Class XII.

### ***Learning Objectives***

- Enable students to understand historical processes and circumstances in which the Constitution was drafted.
- Provide opportunity for students to be familiar with the diverse visions that guided the makers of the Indian Constitution.
- Enables students to identify the certain key features of the Constitution and compare these to other constitutions in the world.
- Analyse the ways in which the provisions of the Constitution have worked in real political life.

### ***Course Content***

1. *Making of the Constitution*: Why do we need a constitution? What does a constitution do? Who made our Constitution? How did the country's partition affect the working of the Constituent Assembly? What were the sources of the Constitution?
2. *Fundamental Rights*: Why do we need for bill of rights in a Constitution? What are the fundamental rights provided by the Constitution? Why was the right to property removed from Fundamental Rights? How have the interpretations by the courts influenced Fundamental Rights? How has provision of Fundamental Rights provided the basis for civil liberties movement in India? What are the Fundamental Duties?
3. *System of representational democracy*: What are the different methods of elections? How do these methods affect parties and politics? Why was the first past the post system chosen in India? What have been the effects of this system? Why is there a system of reserved seats? What are the provisions to ensure free and fair elections? What does the Election Commission do?



4. *Executive in a parliamentary system:* Why was the parliamentary system chosen over other forms of government? Why does the parliamentary system need a constitutional head? How are the Prime Minister and the Chief Ministers elected? What are the formal and real powers of the President of India? What are the powers of the Prime Minister or the Chief Minister and the Council of Ministers? What are the powers of the Governor?
5. *Legislature at the central and state level:* Why does the Parliament of India have two Houses? How are the Parliament and the State Assemblies constituted? What are the powers of the Rajya Sabha and Lok Sabha? How are the laws passed? How is the executive made accountable? What are the constitutional means to prevent defection?
6. *Judiciary:* What is Rule of law? Why do we need an independent judiciary? What are the provisions that ensure the independence of judiciary in India? How are judges appointed? What are the powers of the Supreme and the High Courts? How do they use their powers for public interest?
7. *Federalism:* What is federalism? How does federalism ensure accommodation of diversities? In which ways is the Indian Constitution federal? In which ways does the Constitution strengthen the centre? Why are there special provisions for some states and areas?
8. *Local government:* Why do we need decentralisation of power? What has been the status of local government in the Constitution? What are the basic features of rural and urban local governments? What has been the effect of giving constitutional status to local governments?
9. *Political philosophy underlying the Constitution:* What are the core provisions of the Constitution? What are the visions underlying these core provisions? How are these visions shaped by modern Indian political thought?
10. *Constitution as a living document:* How has the Constitution changed since its inception? What further changes are being debated? What has the working of democracy done to the constitution?

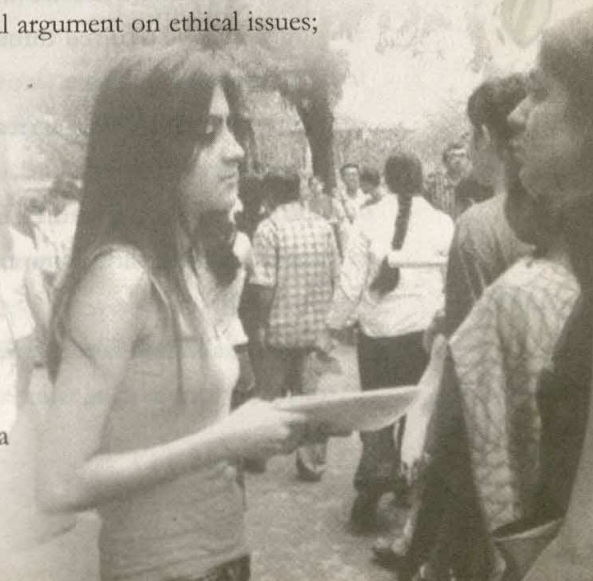
## Course II Class XI: Political Theory

### Course Rationale

This is a beginner's course in normative political philosophy that seeks to:

- equip the student with skills of developing a rigorous political argument on ethical issues;
- encourage them to analyse any unexamined prejudices they may have inherited;
- inculcate a respect for some of the stated and implicit constitutional values;
- develop an interest in political theory and a capacity for abstraction.

The course focuses on some of the key constitutional values or concerns implicit in our democratic political system. Some of these issues are not related to constitutional values in a





direct way but these relate to the larger ethical frame implicit in our democracy. Instead of 'teaching' these values in a didactic manner by invoking the authority of constitution or major thinkers, the course seeks to encourage the students to arrive at these positions through critical reasoning. The main objective here is to give the student the skills and the confidence that they can and should think on their own and take positions on some of the big questions of our time.

The course is organised around some key concepts. Thus each chapter will include:

- Analysis of the key concept and its related concepts;
- Reference to the constitutional values that underlie the concept;
- Discussion of some key intellectual resources (thinkers, isms, document etc.) associated with the concept; and
- Detailed discussion of one or more real life examples of debates involving that concept.

It should be ensured in writing the textbook and in class room teaching that the emphasis should be on the reasoning skills over and above the factual/information content of the examples. Instead of handing down all the nuances of the concept to the student, the textbook and the teacher should encourage the student to develop and use the concept on their own. The students should be discouraged from using quotations and rhetorical flourishes; their argument must stand on its own legs. The success of a course like this is critically dependent on innovative ways of examination.

### **Learning Objectives**

- Develop the skills for logical reasoning and abstraction.
- Inculcate attention to and respect for viewpoints other than one's own.
- Introduce students to the different political thinkers in relation to a concept and in everyday social life.
- Enable students to meaningfully participate in a concern of current political life that surrounds them.
- Encourage the students to analyse any unexamined prejudices that one may have inherited.

### **Course Content**

#### **1. Introduction to Political Theory**

What is politics? Do we find politics in seemingly non-political domains? Can political arguments be resolved through reasoning? Why do we need political theory?

#### **2. Freedom**

What is freedom? What are reasonable constraints on individual liberty? How are the limits defined?

#### **3. Equality**

Do all differences involve inequality? Does equality imply sameness? What are the major forms of inequality? How can equality be realized?

#### **4. Social Justice**

Is justice all about fairness? What is the relationship between justice and equality? What are the different forms of injustice? In which ways can justice be secured?



## 5. Rights

How is a right different from any claim? What are the major kinds of right claims? How do we resolve a conflict between individual and community rights? How does the state enable and obstruct rights?

## 6. Citizenship

Who is a citizen? What are relevant grounds for inclusion and exclusion? How are new claims to citizenship negotiated? Can we have a global citizenship?

## 7. Nationalism

How are the boundaries of a nation defined? Must every nation have a state? What demands can a nation make on its citizens? What is the basis of the right to self-determination?

## 8. Secularism

What is secularism? Which domains of life does it relate to? What is a secular state? Why do we need secular state in modern times? Is secularism suitable for India?

## 9. Peace

What is peace? Does peace always require non-violence? Under what conditions is war justified? Can armament promote global peace?

## 10. Development

What is development? Is there a universally accepted model of development? How to balance the claims of present generation with claims of future generations?

# Course III Class XII: Politics in India Since Independence

## Course Rationale

It is a common experience that the younger generation of citizens does not know very much about the first and formative fifty years in the history of independent India. They often know more about India of 1920s or 1940s than they do about any decade in post-independence period including even the 1990s. This course seeks to fill this lacuna with a view to providing the students with information and perspective that would help them in their further study of Political Science and their role as a citizen. That is why there is a focus on political history; other dimensions are brought in only to the extent they impinge on political history. In doing so, the course seeks to incorporate the lessons learnt from the discipline of history: that history must not become a mere chronicle of dates and events, that it should be integrated into an analytical narrative, that the history of politics must not become a narrow history of national political events and personalities and that history writing must not take place from a narrow partisan angle. The syllabus has to be illustrative rather than comprehensive: the idea is to identify some major developments in any period and then illustrate it with some events and personalities at the national level as well as in a select state or region. It is suggested that some of the recent political developments should be handled in general terms avoiding reference to persons active in today's politics.



## Learning Objectives

- Enable students to be familiar with some of the key political events and figures in the post-independence period.
- Develop skills of political analysis through events and processes of recent history.
- Develop their capacity to link macro processes with micro situations and their own life.
- Encourage the students to take a historical perspective of making sense of the contemporary India.

## Course Contents

1. *Era of One-Party Dominance*: First three general elections, nature of Congress dominance at the national level, uneven dominance at the state level, coalitional nature of Congress. Major opposition parties.
2. *Nation-Building and Its Problems*: Nehru's approach to nation-building; Legacy of partition: challenge of 'refugee' resettlement, the Kashmir problem. Organisation and reorganisation of states; Political conflicts over language.
3. *Politics of Planned Development*: Five year plans, expansion of state sector and the rise of new economic interests. Famine and suspension of five year plans. Green revolution and its political fallouts.
4. *India's External Relations*: Nehru's foreign policy. Sino-Indian war of 1962, Indo-Pak war of 1965 and 1971. India's nuclear programme and shifting alliances in world politics.
5. *Challenge to and Restoration of Congress System*: Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of 'garibi hatao'.
6. *Crisis of the Constitutional Order*: Search for 'committed' bureaucracy and judiciary. Navnirman movement in Gujarat and the Bihar movement. Emergency: context, constitutional and extra-constitutional dimensions, resistance to emergency. 1977 elections and the formation of Janata Party. Rise of civil liberties organisations.
7. *Regional Aspirations and Conflicts*: Rise of regional parties. Punjab crisis and the anti-Sikh riots of 1984. The Kashmir situation. Challenges and responses in the North East.
8. *Rise of New Social Movements*: Farmers' movements, Women's movement, Environment and Development-affected people's movements. Implementation of Mandal Commission report and its aftermath.
9. *Democratic Upsurge and Coalition Politics*: Participatory upsurge in 1990s. Rise of the JD and the BJP. Increasing role of regional parties and coalition politics. UF and NDA governments. Elections 2004 and UPA government.
10. *Recent Issues and Challenges*: Challenge of and responses to globalization: new economic policy and its opposition. Rise of OBCs in North Indian politics. Dalit politics in electoral and non-electoral arena. Challenge of communalism: Ayodhya dispute, Gujarat riots.



## Course IV Class XII: Contemporary World Politics

### Course Rationale

The political map of the world has undergone a dramatic change after the end of the cold war. The present course is an introduction to this new world of politics that we live in. It aims at encouraging and equipping the student to think about India's place in this new world. It seeks to impart relevant information and develop a perspective so as to initiate the student in the discipline of international relations and, to a limited extent, comparative politics. The course moves away from the conventional focus of introductory courses on world politics in many ways. Its focus is clearly on the post-1990 world, with a brief introduction to cold war and bipolar world to serve as a background. The emphasis here is not only on relations among nations; the course also seeks to introduce the students to post-democratisation political systems across the world and to processes of globalization in internal and external relations of the nations. While paying attention to the role of big powers, it gives careful attention to alternative centres of power and the global South. It seeks to shift the focus away from a formal description of the UN and its organs, to new institutions of global governance. Given its emphasis on locating India in contemporary world politics, the course does not limit the discussion on India to a chapter on India's foreign policy. Instead, it seeks to situate India in the context of each of the themes and regions discussed in the course, while paying special attention to India's relations with its neighbours. An extensive use of maps is strongly recommended for this course.

### Learning Objectives

- Enable the students to expand their horizon beyond India and make sense of the political map of contemporary world.
- Familiarise the students with some of the key political events and processes in the post cold war era.
- Equip student to be conscious of the way in which global events and processes shape our everyday lives.
- Strengthen their capacity for political analysis by thinking of contemporary developments in a historical perspective.

### Course Content

1. *Cold War Era in World Politics*: Emergence of two power blocs after the second world war. Arenas of the cold war. Challenges to Bipolarity: Non Aligned Movement, quest for new international economic order. India and the cold war.
2. *Disintegration of the 'Second World' and the Collapse of Bipolarity*: New entities in world politics: Russia, Balkan states and, Central Asian states, Introduction of democratic politics and capitalism in post-communist regimes. India's relations with Russia and other post-communist countries.
3. *US Dominance in World Politics*: Growth of unilateralism: Afghanistan, first Gulf War, response to 9/11 and attack on Iraq. Dominance and challenge to the US in economy and ideology. India's renegotiation of its relationship with the USA.



4. *Alternative Centres of Economic and Political Power*: Rise of China as an economic power in post-Mao era, creation and expansion of European Union, ASEAN. India's changing relations with China.
5. *South Asia in the Post-Cold War Era*: Democratisation and its reversals in Pakistan and Nepal. Ethnic conflict in Sri Lanka. Impact of economic globalization on the region. Conflicts and efforts for peace in South Asia. India's relations with its neighbours.
6. *International Organisations in a Unipolar World*: Restructuring and the future of the UN. India's position in the restructured UN. Rise of new international actors: new international economic organisations, NGOs. How democratic and accountable are the new institutions of global governance?
7. *Security in Contemporary World*: Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health and education. Issues of human rights and migration.
8. *Environment and Natural Resources in Global Politics*: Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand in global environmental debates.
9. *Globalisation and Its Critics*: Economic, cultural and political manifestations. Debates on the nature of consequences of globalisation. Anti-globalisation movements. India as an arena of globalization and struggles against it.

# ECONOMICS

## ECONOMICS (CLASSES XI-XII)

### Rationale

Economics is one of the social sciences which has a lot of influence on every human being yet was received little attention in the school curriculum in India. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them with opportunities to acquire analytical skills to observe and understand the economic realities. Bringing in economics as an abstract knowledge in the early stages of school education would promote rote learning of the subject.

At the higher secondary stage, learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage that learners are exposed to the rigour of the discipline of economics in a systematic way.

Economics courses are being introduced in such a way that, in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are to be introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day



life and also issues which are broader and invisible in nature. The academic skills that they acquire in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

## Objectives

1. Understanding of some basic economic concepts and developing economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
2. Realisation of learners' role in nation building and sensitise them to the economic issues that the nation is facing today.
3. To equip learners with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond the higher secondary stage.
4. To develop an understanding that there can be more than one view on any economic issue and to develop the skills to argue logically with reasoning.

The economics subject would be taught in four semesters at the higher secondary stage. The details of course for each semester are as follows:

## Class XI

1. Statistics for Economics
2. Indian Economic Development

## Class XII

1. Introductory Microeconomics
2. Introductory Macroeconomics

# CLASS XI

## Course I: Statistics for Economics

In this course, the learners are expected to acquire skills in collection, organisation of quantitative and qualitative information pertaining to various, but simple, economic aspects systematically. It also intends to provide some basic statistical tools to analyse and interpret any economic information and draw appropriate inferences. In this process, the learners are also expected to understand the behaviour of various economic data.

### Unit I: Introduction

- What is Economics?
- Meaning, scope and importance of statistics in Economics.

### Unit II: Collection and Organisation of Data

- *Collection of data:* Sources of data – primary and secondary; how basic data is collected; methods of collecting data.





- *Some important sources of secondary data:* Census of India and National Sample Survey Organisation. *Organisation of Data:* Meaning and types of variables; frequency distribution.

*Presentation of Data:* Tabular presentation of data and diagrammatic presentation of data:

- (i) Geometric forms (bar diagrams and pie diagrams),
- (ii) Frequency diagrams (histogram, polygon and ogive) and
- (iii) Arithmetic line-graphs (time series graph).

### **Unit III: Statistical Tools and Interpretation**

- Measures of Central Tendency – mean (simple and weighted), median and mode.
- Measures of Dispersion – absolute dispersion (range, quartile deviation, mean deviation and standard deviation); relative dispersion (co-efficient of quartile deviation, co-efficient of mean deviation and co-efficient of variation); Lorenz Curve: Meaning and its application.
- Correlation – meaning, scatter diagram; Measures of correlation – Karl Pearson's method (two variables ungrouped data) and Spearman's rank correlation.
- Introduction to Index Numbers – meaning, types – wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

(For all the numerical problems and solutions, the appropriate economic interpretation may be attempted. This means that students need to solve the problems and provide interpretations for the results derived.)

### **Unit IV: Developing Projects in Economics**

The students may be encouraged to develop projects which have primary data, secondary data or both. Case studies of a few organisations/outlets may also be encouraged. Some of the examples of the projects are as follows (they are not mandatory but suggestive):

- (i) A report on the demographic structure of your neighbourhood;
- (ii) Consumer awareness amongst households;
- (iii) Changing prices of a few vegetables in your market;
- (iv) Study of a cooperative institution: milk cooperatives.

The idea behind introducing this unit is to enable the students to acquire ways and means by which a project can be developed by using the skills learned in the course. This includes all the steps involved in designing a project: choosing a title, exploring the information relating to the title, collecting primary and secondary data, analysing the data, presenting the project and using various statistical tools and their interpretation and conclusion.

Instructions to the textbook writers (i) examples will have to be provided from simple economic data. The learners should not have any problem in understanding the economic data provided in those examples. Besides arriving at results using formulae of various statistical tools, the learners are also expected to interpret the results. So care must be taken to provide very simple



economic information, which the learners can understand without knowing the conceptual meaning in depth (ii) many multiple choice questions can be used in the textbook.

## **Course II: Indian Economic Development**

One of the objectives of this course is to provide the learners with a background discussion on some of the key issues relating to the Indian economy. In this process, they are, as citizens, expected to be sensitised about those issues, appreciate and critically assess the role of the government in various economic spheres. This course also gives opportunities for knowing the economic resources available and how these resources are being utilised in different sectors. By exposing them to quantitative data on various economic aspects and policies, the learners would also be able to use their analytical skills, interpret the economic events and visualise the economic future of India. Nevertheless, this would not tantamount to burdening the child with concepts and data. By comparing India's economic performance with our neighbouring nations, this course also provides opportunities for knowing where we stand today – as a nation. With regard to various economic issues and trends, this course also provides the scope for alternative views and creates opportunities for the learners to debate. When they complete the course, the learners should be able to understand the economic realities that appear in various media.

### **Unit I: Development Policies and Experience (1947-90)**

- A brief introduction of the state of the Indian economy on the eve of independence
- Common goals of five year plans
- Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.), industry (industrial licensing, etc.) and foreign trade

### **Unit II: Economic Reforms since 1991**

- Need and main features — liberalisation, globalisation and privatisation
- An appraisal of LPG policies

### **Unit III: Current Challenges Facing Indian Economy**

*Poverty:* Absolute and relative; main programmes for poverty alleviation: a critical assessment

*Rural development:* Key issues – credit and marketing – role of cooperatives; agricultural diversification; alternative farming – organic farming

*Human capital formation:* How people become a resource; role of human capital in economic development; growth of education sector in India

*Employment:* Growth, informalisation and other issues: problems and policies.

*Infrastructure:* Meaning and types; case studies: energy and health — problems and policies — a critical assessment.

*Environment:* Sustainable economic development; limited availability of resources; environmental degradation.



## Unit IV: Development Experience of India: A Comparison with Neighbours

- India and Pakistan
- India and China

*Issues:* Growth, population, sectoral development and other developmental indicators

*Note to textbook writers:* Since this course is expected to create opportunities for learners to know about various aspects of the Indian economy, there is a need to provide information in an interesting manner. To the extent possible, data in long tabular form should be avoided. Instead, different forms of diagrams and charts, pictures and maps could be used. Since the learners study this course for the first time, those economic concepts which are used in this course, could be explained in a simple manner. Sensitising the learner towards various issues such as poverty, environmental degradation and gender concerns also forms a part of this course; many real examples in simple ways could be used.

## CLASS XII

### Course I: Introductory Microeconomics

This course introduces the learner to economics as a science of abstraction and reasoning. It introduces some basic concepts and tools to understand economic issues of an individual or a firm and how decisions are taken in variety of markets. It also intends to provide exposure to the learners on how choices are made and how a variety of statistical tools are used to optimally allocate the resources.

#### Unit I: Introduction

- What is microeconomics?
- Central problems of an economy, production possibility curve and opportunity cost.

#### Unit II: Consumer Behaviour and Demand

- *Consumer's Equilibrium:* meaning and attainment of equilibrium through Utility Approach: One and two commodity cases.
- *Demand:* market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in demand curve, price elasticity of demand, measurement of price elasticity of demand – percentage, total expenditure and geometric methods

#### Unit III: Producer Behaviour and Supply

- *Production function:* returns to factor and returns to scale
- *Supply:* market supply, determinants of supply, supply schedule, supply curve movement along and shifts in supply curve, price elasticity of supply, measurement of price elasticity of supply – percentage and geometric methods
- *Cost and Revenue:* Concepts of costs; short-run cost curves (fixed and variable costs; total, average and marginal costs); concepts of revenue – total, average and marginal revenue and their relationship. Producer's equilibrium – with the help of MC and MR.





#### **Unit IV: Forms of Market and Price Determination**

- Forms of market – perfect competition, monopoly, monopolistic competition – their meaning and features.
- Price determination under perfect competition – equilibrium price, effects of shifts in demand and supply.

#### **Unit V: Simple Applications of Tools of Demand and Supply Curves**

The teachers can be given the flexibility to choose the issues: rationing, floors and ceilings and Food Availability Decline (FAD) Theory (the teachers may also choose alternative examples that are simple and easy to understand)

*Note to textbook writers:* More examples from day-to-day context could be given. More numerical examples (solved) will have to be given. Use of pictures, charts and simple tables is essential.

#### **Course II: Introductory Macroeconomics**

The overall working of an economy and some of its economic theorisation are introduced in this course. The learners will get some basic idea of how the government regulates the functioning of economic aspects of a country through accounting of the production activities, running financial institutions, budgeting and the accounting of its economic interaction with other countries. The impact it will have on citizens is also briefly introduced.

#### **Unit I: National Income and Related Aggregates — Basic Concepts and Measurement**

- *Macroeconomics*: meaning.
- Circular flow of income, concepts of GDP, GNP, NDP, NNP (at market price and factor cost), National Disposable Income (gross and net); Private Income, Personal Income and Personal Disposable Income
- Measurement of National Income – Value Added method, Income method and Expenditure method

#### **Unit II: Determination of Income and Employment**

- Aggregate demand, aggregate supply and their components
- Propensity to consume and propensity to save (average and marginal)
- Meaning of involuntary unemployment and full employment
- Determination of income and employment: two sector model
- Concept of investment multiplier and its working
- Problems of excess and deficient demand
- Measures to correct excess and deficient demand – availability of credit, change in government spending

#### **Unit III: Money and Banking**

- *Money*: meaning, evolution and functions
- *Central bank*: meaning and functions



- *Commercial banks*: meaning and functions
- *Recent significant reforms and issues in Indian Banking System*: privatisation and modernisation

#### Unit IV: Government Budget and the Economy

- Government budget – meaning and its components
- Objectives of government budget
- Classification of receipts – revenue and capital; classification of expenditure – revenue and capital, plan and non-plan, and developmental and non-developmental
- Balanced budget, surplus budget and deficit budget: meaning and implications
- Revenue deficit, fiscal deficit and primary deficit: meaning and implications; measures to contain different deficits
- Downsizing the role of government: meaning and implications

#### Unit V: Balance of Payments

- Foreign exchange rate – meaning (fixed and flexible), merits and demerits; determination through demand and supply
- Balance of payments accounts – meaning and components
- A brief analysis about recent exchange rate issues

*Note to textbook writers:* Since this course will take the learner to a higher level of abstraction, there is a need to provide more examples from day-to-day context. More numerical examples (solved) will have to be given. Use of pictures, charts and simple tables is essential.

## SOCIOLOGY

### SOCIOLOGY (CLASSES XI-XII)

#### Rationale

Sociology is introduced as an elective subject at the higher secondary stage. The syllabus is designed to help learners to reflect on what they hear and see in the course of everyday life and develop a constructive attitude towards society in change; to equip a learner with concepts and theoretical skills for the purpose. The curriculum of Sociology at this stage should enable the learner to understand dynamics of human behaviour in all its complexities and manifestations. The learners of today need answers and explanations to satisfy the questions that arise in their minds while trying to understand social world. Therefore, there is a need to develop an analytical approach towards the social structure so that they can meaningfully participate in the process of social change. There is scope in the syllabus not only for interactive learning, based on exercises and project work but also for teachers and students to jointly innovate new ways of learning.

- Sociology studies society. The child's familiarity with the society in which she /he lives makes the study of sociology a double edged experience. At one level sociology studies institutions such as family and kinship, class, caste and tribe, religion and region — contexts with which





children are familiar, even if differentially. For India is a society which is varied both horizontally and vertically. The effort in the books will be to grapple overtly with this both as a source of strength and as a site for interrogation.

- Significantly the intellectual legacy of sociology equips the discipline with a plural perspective that overtly engages with the need for defamiliarisation, to unlearn and question the given. This interrogative and critical character of sociology also makes it possible to understand both other cultures as well as relearn about one's own culture.
- This plural perspective makes for an inbuilt richness and openness that not too many other disciplines in practice share. From its very inception sociology has had mutually enriching and contesting traditions of an interpretative method that openly takes into account 'subjectivity' and causal explanations that pays due importance to establishing causal correspondences with considerable sophistication. Not surprisingly its field work tradition also entails large scale survey methods as well as a rich ethnographic tradition. Indeed Indian sociology in particular has bridged this distinction between what has often been seen as distinct approaches of sociology and social anthropology. The syllabus provides ample opportunity to make the child familiar with the excitement of field work as well as its theoretical significance for the very discipline of sociology.
- The plural legacy of sociology also enables a bird's eye view and a worm's eye view of the society the child lives in. This is particularly true today when the local is inextricably defined and shaped by macro global processes.
- The syllabus proceeds with the assumption that gender as an organizing principle of society cannot be treated as an add on topic but is fundamental to the manner that all chapters shall be dealt with.
- The chapters shall seek for a child centric approach that makes it possible to connect the lived reality of children with social structures and social processes that sociology studies.
- A conscious effort will be made to build into the chapters a scope for exploration of society that makes learning a process of discovery. A way towards this is to deal with sociological concepts not as givens but a product of societal actions, humanly constructed and therefore open to questioning.



## Objectives

1. To enable learners to relate classroom teaching to their outside environment.
2. To introduce them to the basic concepts of sociology that would enable them to observe and interpret social life.
3. To be aware of the complexity of social processes.
4. To appreciate diversity in society in India and the world at large.
5. To build the capacity of students to understand and analyse the changes in contemporary Indian society.

## CLASS XI

### Introducing Sociology

(Total Periods 110)

#### Unit I: *Society and Sociology*

(Periods 22)

- Introducing Society: Individuals and collectivities, Plural Perspectives.
- Introducing Sociology: Emergence, Nature and Scope, Relationship with other disciplines.

#### Unit II: *Basic Concepts*

(Periods 22)

- Social Groups
- Status and Role
- Social Stratification
- Social Control

#### Unit III: *Social Institutions*

(Periods 24)

- Family and Kinship
- Political and Economic Institutions
- Religion as a Social Institution
- Education as a Social Institution

#### Unit IV: *Culture and Society*

(Periods 20)

- Culture, Values and Norms: Shared, Plural, Contested
- Socialisation: Conformity, Conflict and the Shaping of Personality

#### Unit V: *Doing Sociology: Methods and Techniques*

(Periods 22)

- Tools and Techniques: Observation, Survey, Interview
- The Significance of Field Work in Sociology

## CLASS XI

### Understanding Society

(Total Periods 110)

#### Unit I: *Structure, Process and Stratification*

(Periods 22)

- Social Structure



- Social Processes: Cooperation, Competition, Conflict
- Social Stratification: Class, Caste, Race and Gender

## **Unit II: Social Change**

(Periods 22)

- Social Change: Types and Dimensions; Causes and Consequences
- Social Order: Domination, Authority and Law; Contestation, Crime and Violence
- Village, Town and City: Changes in Rural and Urban Society

## **Unit III: Environment and Society**

(Periods 18)

- Ecology and Society
- Environmental Crises and Social Responses

## **Unit IV: Western Social Thinkers**

(Periods 24)

- Karl Marx on Class Conflict
- Emile Durkheim on Division of Labour
- Max Weber on Bureaucracy

## **Unit V: Indian Sociologists**

(Periods 24)

- G.S. Ghurye on Race and Caste
- D.P. Mukerji on Tradition and Change
- A.R. Desai on the State
- M.N. Srinivas on the Village

# **XII**

## **PART I**

## **Indian Society**

(Total Periods 110)

### **Unit I: Structure of Indian Society**

(Periods 24)

- Introducing Indian Society: Colonialism, Nationalism, Class and Community
- Demographic Structure
- Rural-Urban Linkages and Divisions

### **Unit II: Social Institutions: Continuity and Change**

(Periods 20)

- Family and Kinship
- The Caste System
- Tribal Society
- The Market as a Social Institution

### **Unit III: Social Inequality and Exclusion**

(Periods 26)

- Caste Prejudice, Scheduled Castes and Other Backward Classes
- Marginalisation of Tribal Communities



- The Struggle for Women's Equality
- The Protection of Religious Minorities
- Caring for the Differently Abled

#### **Unit IV: The Challenges of Unity in Diversity**

(Periods 22)

- Problems of Communalism, Regionalism, Casteism and Patriarchy
- Role of the State in a Plural and Unequal Society
- What We Share

#### **Unit V: Project Work**

(Periods 18)

## **CLASS XII**

## **PART II**

### **Change and Development in India**

(Total Periods 110)

#### **Unit I: Process of Social Change in India**

(Periods 22)

- Process of Structural Change: Colonialism, Industrialisation, Urbanisation
- Process of Cultural Change: Modernization, Westernisation, Sanskritisation, Secularisation
- Social Reform Movements and Laws

#### **Unit II: Social Change and the Polity**

(Periods 22)

- The Constitution as an instrument of Social Change
- Parties, Pressure Groups and Democratic Politics
- Panchayati Raj and the Challenges of Social Transformation

#### **Unit III: Social Change and the Economy**

(Periods 22)

- Land Reforms, the Green Revolution and Agrarian Society
- From Planned Industrialisation to Liberalisation
- Changes in the Class Structure

#### **Unit IV: New Arenas of Social Change**

(Periods 20)

- Media and Social Change
- Globalisation and Social Change

#### **Unit V: Social Movements**

(Periods 24)

- Class-Based Movements : Workers, Peasants
- Caste-Based Movements: Dalit Movement, Backward Castes, Trends in Upper Caste Responses
- Women's Movements in Independent India
- Tribal Movements
- Environmental Movements



# PSYCHOLOGY

## PSYCHOLOGY (CLASSES XI-XII)

### Rationale

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specialises in the study of experiences, behaviours and mental processes of human beings within a socio-cultural and socio-historical context. This course purports to introduce the learners to the basic ideas, principles and methods in psychology so as to enable them to understand themselves and their social world better. The emphasis is put on creating interest and exposure needed by learners to develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasises the complexity of behavioural processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behaviour, and illustrating how biology and experience shape behaviour. The course while developing an appreciation of subjectivity, also focuses on multiplicity of worldviews.

It is suggested that the teaching-learning processes should involve students in evolving their own understanding. Therefore, teaching of psychology should be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

### Objectives

1. To develop appreciation about human behaviour and human mind in the context of learners' immediate society and environment.
2. To develop in learners an appreciation of multidisciplinary nature of psychological knowledge and its applications in various aspects of life.
3. To enable learners to become perceptive, socially aware and self-reflective.
4. To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.

## CLASS XI

### Semester I: Foundations of Psychology - I

(Total 90 Periods)

#### Unit I: What is Psychology?

(12 Periods)

The unit seeks to develop understanding and appreciation of psychology as a discipline, its evolution, its applications and its relationships with other sciences through appropriate and interesting examples and analysis of everyday experience.

What is psychology?; Popular notions about discipline of psychology; Understanding mind and behaviour; Evolution of psychology; Branches of psychology: Themes of research and applications; Psychology and other disciplines ; Psychologists at work ; Psychology in everyday life; Development of Psychology in India.



## **Unit II: Methods of Enquiry in Psychology**

(18 Periods)

The objective of this unit is to discuss methods of enquiry for collecting psychological data.

Goals of psychological enquiry; Nature of psychological data; Some important methods: Observational, Experimental, Correlational, Survey, Psychological testing, Case Study; Analysis of data; Limitations of psychological enquiry; Ethical issues.

## **Unit III: The Bases of Human Behaviour**

(18 Periods)

The unit will focus on the role of biological and socio-cultural factors in the shaping of human behaviour.

Evolutionary perspective; Biological basis : Biological and cultural roots; Biology of behaviour: Structure and functions of nervous system and endocrine system; Relationship of nervous system and endocrine system with behaviour and experience; Brain and behaviour; Heredity: Genes and behaviour; Cultural basis : Socio-cultural shaping of behaviour (e.g. family, community, faith, gender, caste, disability etc.); Socialisation , enculturation and acculturation.

## **Unit IV: Human Development**

(20 Periods)

This unit deals with variations in development and the developmental tasks during the life span.

Meaning of development; Factors influencing development; Context of development; Overview of developmental stages: Infancy, Childhood, Challenges of Adolescence, Adulthood and Old age.

## **Unit V: Sensory, Attentional and Perceptual Processes**

(22 Periods)

This unit aims at understanding how various sensory stimuli are received, attended to and given meaning.

Knowing the world ; Nature and varieties of stimulus; Sense modalities; Adaptation; Attentional processes; Selective and sustained attention ; Perceptual processes; The Perceiver; Principles of perceptual organisation; After images; Perception of space, depth and distance; Perceptual constancies; Illusions; Socio-cultural influences on perception.

## **Semester II: Foundations of Psychology-II**

(Total 90 Periods)

### **Unit VI: Learning**

(22 Periods)

This unit focuses on how one acquires new behaviour and how changes in behaviour take place.

Nature of learning; Paradigms of learning: Classical and operant conditioning, Observational learning, Cognitive learning, Verbal learning, Concept learning, Skill learning; Factors facilitating learning; Transfer of learning; The Learner: Learning styles; Learning disabilities; Applications of learning principles.

### **Unit VII: Human Memory**

(22 Periods)

This unit deals with how information is received, stored, retrieved and lost. It will also discuss how memory can be improved.

Nature of memory; Information Processing Approach; Levels of processing ; Memory systems — Sensory memory, Short-term memory, Long-term memory; Knowledge





representation and organisation in memory ; Memory as a constructive process; Nature and causes of forgetting; Enhancing memory.

### **Unit VIII: Thinking (24 Periods)**

This unit deals with thinking and related processes like reasoning, problem-solving, decision making and creative thinking. The relationship between thought and language will also be discussed.

Nature of thinking; Thought and language; Development of language and language use; Reasoning; Problem-solving; Decision making; Nature and Process of creative thinking; Developing creative thinking.

### **Unit IX: Motivation and Emotion (22 Periods)**

This unit focuses on why human beings behave as they do. It also deals with how people experience positive and negative events and respond to them.

Nature of motivation; Biological motives; Social and psychological motives — Achievement, Affiliation and Power; Maslow's hierarchy of needs; Nature of emotions; Physiological, cognitive and cultural bases of emotions; Expression of emotions; Enhancing positive emotions, e.g. Happiness, Optimism etc.; Managing negative emotions, e.g. anger, fear etc.

### **Practicals for Semesters I and II (60 Periods)** *(Projects, Experiments, Small Studies, etc.)*

The students shall be required to undertake one project and conduct three practicals. The project would involve the use of different methods of enquiry and related skills. Practical would involve undertaking experiments and conducting small studies, exercises, related to the topics covered in the course (Human development, Learning, Memory, Motivation, Perception, Attention, Thinking).

## **CLASS XII**

### **Semester III: Psychology and Self (Total 90 Periods)**

#### **Unit I: Variations in Psychological Attributes (20 Periods)**

The unit aims at studying how people differ with respect to their various psychological attributes.

Individual differences in human functioning; Assessment of psychological attributes; Intelligence: Individual differences in intelligence; Theories of intelligence; Culture and intelligence; Special abilities: Aptitude — nature and measurement; Creativity; Emotional intelligence.

#### **Unit II: Self and Personality (20 Periods)**

This unit focuses on the study of self and personality in the context of different approaches in an effort to appraise the person. The assessment of personality will also be discussed.



Concepts of self, self-esteem, self-efficacy, and self-regulation; Culture and self; Concept of personality; Major approaches — Type and Trait, Psychodynamic, Humanistic, Behavioural, Cultural; Assessment of personality : Self-report measures, behavioural analysis, and projective measures.

### **Unit III: Meeting Life Challenges**

(16 Periods)

This unit deals with the nature of stress and how responses to stress depend on an individual's appraisal of stressors. Strategies to cope with stress will also be dealt with .

Nature, types and sources of stress; Effects on psychological functioning and health; Coping with stress; Promoting positive health and well-being.

### **Unit IV: Psychological Disorders**

(16 Periods)

This unit discusses the concepts of normality and abnormality and the major psychological disorders.

Concepts of abnormality and psychological disorders; Classification of disorders; Factors underlying abnormal behaviour; Major psychological disorders – Anxiety, Somatic, Dissociative, Mood, Schizophrenic, Developmental and Behavioural-Substance use related.

### **Unit V: Therapeutic Approaches**

(18 Periods)

The unit discusses the goals, techniques, and effectiveness of different approaches to treat psychological disorders.

Nature and process of therapy: Therapeutic relationship; Types of therapies: Psychodynamic, Humanistic, Cognitive, Behaviour and Bio-medical ; Alternative therapies — Yoga, Meditation; Rehabilitation of mentally ill.

## **Semester IV: Psychology and Society**

(Total 90 Periods)

### **Unit VI: Attitude and Social Cognition**

(24 Periods)

This unit focuses on formation and change of attitudes, cultural influences on attributional tendencies and conditions influencing pro-social behaviour.

Explaining social behaviour: Impression formation and explaining behaviour of others through attributions; Social cognition; Schemas and stereotypes; Nature and components of attitudes; Attitude formation and change; Behaviour in the presence of others; Pro-social behaviour; Prejudice and discrimination; Strategies for handling prejudice.

### **Unit VII: Social Influence and Group Processes**

(24 Periods)

The unit deals with the concept of group, its functions and the dynamics of social influence on conformity, obedience and compliance. Different conflict resolution strategies will also be discussed.

Conformity, Obedience, and Compliance; Cooperation and Competition; Nature and formation of groups; Types of groups; Social identity; Influence of group on individual behaviour; Inter-group conflicts; Conflict resolution strategies.



## **Unit VIII: Psychology and Life**

(20 Periods)

The unit focuses on the application of psychological understanding to some important social issues.

Human-environment relationship; Environmental effects on human behaviour: Noise, pollution, crowding, natural disasters; Promoting pro-environmental behaviour; Psychology and social concerns: Aggression, Violence and Peace, Discrimination and Poverty, health, impact of television on behaviour.

## **Unit IX: Developing Psychological Skills**

(22 Periods)

The unit deals with some effective psychological and interpersonal skills for facilitating personal-social development.

Effective psychological skills: Observational skills, Interviewing skills, Testing skills, Counselling skills — empathy, authenticity, positive regard, and Communication skills — listening.

## **Practicals for Semesters III and IV**

(60 Periods)

*(Projects, Psychological Testing, Case Studies, etc.)*

The students shall be required to prepare one case profile and conduct five practicals related to the topics covered in the course. The case profile will include developmental history of the subject, using both qualitative (observation, interview, rating etc.) and quantitative approaches. Practical would involve using standardised psychological assessment devices in different domains (intelligence, personality, aptitude, adjustment, attitude, self-concept, and anxiety).

# **BUSINESS STUDIES**

**BUSINESS STUDIES (CLASSES XI-XII)**

## **Rationale**

The courses in Business Studies and Accountancy are introduced at +2 stage of Higher Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society.

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way firms transact their business. Information Technology is becoming a part of business operations in more and more organisations. Computerised systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies will prepare students to analyse, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political,



legal and economic forces. It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

## Objectives

- To develop in students an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and inter-dependent aspects of business;
- To develop an interest in the theory and practice of business trade and industry;
- To familiarise candidates with theoretical foundations of organising managing and handling operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social costs and benefits arising therefrom;
- To acquaint students with the practice of managing the operations and resources of business;
- To prepare students to function more effectively and responsibly as consumers, employers, employees and citizens;
- To help students in making the transition from school to the world of work including self-employment;
- To develop in students a business attitude and skills to be precise and articulate.

## Course Structure

The Business Studies syllabus has been divided into 4 semester courses at the higher secondary stage. Each semester would be for about six months duration.

### CLASS XI

#### Semester I

#### *Foundations of Business*

#### Semester II

#### *Corporate Organisation, Finance and Trade*

### CLASS XII

#### Semester III

#### *Principles and Functions of Management*

#### Semester IV

#### *Business Finance and Marketing*





## Semester I

### Foundations of Business

(Total Periods 104)

#### Unit I: Nature and Purpose of Business

(Periods 20)

- Concept and characteristics of business.
- Business, profession and employment – distinctive features.
- Objectives of business – economic and social, role of profit in business.
- Classification of business activities: Industry and Commerce.
- Industry – types: primary, secondary, tertiary.
- Commerce: Trade and Auxiliaries.
- Business risks – nature and causes.

#### Unit II: Forms of Business Organisation

(Periods 24)

- Sole Proprietorship; Joint Hindu Family Business – meaning, features, merits and limitations.
- Partnership – meaning, types, registration, merits, limitations, types of partners.
- Cooperative Societies – types, merits and limitations.
- Company: Private Ltd., Public Ltd – merits, limitations.
- Choice of form of business organisations.
- Starting a business – Basic factors.

#### Unit III: Private, Public and Global Enterprises

(Periods 14)

- Private Sector and Public Sector.
- Forms of Organising public sector enterprises:
  - Departmental Undertaking
  - Statutory Corporation
  - Government Company
- Changing role of public sector.
- Global Enterprises (Multinational Companies): meaning and features,
- Joint ventures — meaning, benefits.

#### Unit IV: Business Services

(Periods 18)

- Nature and types of Business services — Banking, Insurance, Transportation, Warehousing, Communication.
- Banking — types of Banks, Functions of Commercial banks, E-banking.
- Insurance: principles, types: life, fire and marine.
- Postal and Telecom services.
- Warehousing: types and functions.



### **Unit V: Emerging Modes of Business**

(Periods 14)

- E-Business — Meaning, scope and benefits, Resources required for successful e-business implementation, On-line transactions, payment mechanism, security and safety of business transactions.
- Outsourcing — concept, need and scope.

### **Unit VI: Social Responsibility of Business and Business Ethics**

(Periods 14)

- Concept of social responsibility;
- Case for social responsibility;
- Responsibility towards different interest groups: owners, investors, employees, consumers, government, community and public in general;
- Business and environmental protection;
- Business ethics: concept and elements.

## **Semester II**

### **Corporate Organisation, Finance and Trade**

(Total Periods 104)

#### **Unit VII: Formation of a Company**

(Periods 16)

Stages in the formation of a company:

- Promotion,
- Incorporation, and
- Commencement of business.

#### **Unit VIII: Sources of Business Finance**

(Periods 24)

- Nature and significance
- Financial requirements and sources: owners funds and borrowed funds
- Methods of raising Finance:
  - Equity and Preference shares
  - Debentures and Bonds
  - Retained profits
  - Public deposits
  - Loan from Commercial Banks
  - Loan from Financial Institution
  - Trade Credit
  - Discounting of Bills of Exchange
  - Global Depository Receipt, American Depository Receipt

#### **Unit IX: Small Business**

(Periods 20)

- Small Scale Industry; Tiny Sector; cottage and rural industry;
- Role of small business in rural India;
- Problems of small business in India.
- Government Assistance and Special Schemes for Industries in rural, backward and hilly areas.



## **Unit X: Internal Trade**

(Periods 20)

- Meaning and types of internal trade: wholesale and retail;
- Services of a wholesaler and a retailer.
- Types of Retail Trade:
  - Itinerant retailers and fixed shops.
  - Departmental store, super market, malls, chain store, mail order business, consumer's cooperative store
  - Automatic Vending Machine
- Role of Chambers of Commerce and Industry in promotion of internal trade.

## **Unit XI: International Business**

(Periods 24)

- Nature, Importance, scope and complexities involved in International Business;
- Basic information about ways of entering into International Business;
- Contract manufacturing; licensing; franchising; Joint ventures and Setting up Wholly Owned Subsidiaries;
- Export-Import procedures and Documentation;
- Foreign Trade Promotion: Organisational Support and Incentives; Nature and Importance of Export Processing Zone/Special Economic Zones;
- International Trade Institutions and Agreement: WTO, UNCTAD, World Bank/IMF.

# **XII**

## **CLASS XII**

## **Semester III**

### **Principles and Functions of Management**

(Total Periods 104)

#### **Unit I: Nature and Significance of Management**

(Periods 10)

- Management – concept, objectives, importance.
- Nature of management; Management as Science, Art, Profession.
- Levels of management – top, middle supervisory (First level).
- Management functions – planning, organising, staffing, directing and controlling.
- Coordination – nature and importance.

#### **Unit II: Principles of Management**

(Periods 10)

- Principles of Management – meaning, nature and significance.
- Fayol's principles of management.
- Taylor's Scientific Management – Principles and Techniques.

#### **Unit III: Business Environment**

(Periods 10)

- Business Environment – meaning and importance.
- Dimensions of Business Environment – Economic, Social, Technological, Political and Legal.



- Economic Environment in India; Impact of Government policy changes on business and industry, with special reference to adoption of the policies of liberalization privatization and globalisation.

#### **Unit IV: Planning**

(Periods 14)

- Meaning, features, importance, limitations.
- Planning process.
- Types of Plans – Objectives, Strategy, Policy, Procedure, Method, Rule, Budget, Programme.

#### **Unit V: Organising**

(Periods 16)

- Meaning and importance.
- Steps in the process of organising.
- Structure of organization – functional, and divisional.
- Formal and informal organisation.
- Delegation: meaning elements and importance.
- Decentralization: meaning and importance.
- Difference between delegation and decentralisation.

#### **Unit VI: Staffing**

(Periods 16)

- Meaning, need and importance of staffing.
- Staffing as a part of Human Resources Management.
- Steps in staffing process.
- Recruitment – meaning and sources.
- Selection – meaning and process.
- Training and Development – meaning, need, methods – on the job and off the job methods of training.

#### **Unit VII: Directing**

(Periods 16)

- Meaning, importance and principles.
- Elements of Direction:
  - Supervision – meaning and importance
  - Motivation – meaning and importance, Maslow's hierarchy of needs; Financial and non-financial incentives.
  - Leadership – meaning, importance; qualities of a good leader.
  - Communication – meaning and importance, formal and informal communication; barriers to effective communication.

#### **Unit VIII: Controlling**

(Periods 12)

- Meaning and importance.
- Relationship between planning and controlling.
- Steps in the process of control.
- Techniques of controlling.



## Semester IV

### *Business Finance and Marketing*

(Total Periods 104)

#### **Unit IX: Business Finance**

(Periods 20)

- Business finance – meaning, role, objectives of financial management.
- Financial planning – meaning and importance.
- Capital Structure – meaning and factors.
- Fixed and Working Capital – meaning and factors affecting their requirements.

#### **Unit X: Financial Markets**

(Periods 20)

- Concept of Financial Market: Money Market – nature instruments;
- Capital market: nature and types – primary and secondary market.
- Distinction between capital market and money market.
- Stock Exchange – meaning, functions, NSEI, OCTEI, Trading Procedure.
- Securities and Exchange Board of India (SEBI) – Objectives, Functions.

#### **Unit XI: Marketing**

(Periods 30)

- Marketing – meaning, functions, role.
- Distinction between marketing and selling.
- Marketing mix – concept and elements:
  - Product – nature, classification, branding, labeling and packaging
  - Physical distribution: meaning, role; Channels of distribution, – meaning, types, factors, determining choice of channels.
  - Promotion – meaning and role, promotion mix, Role of Advertising and personal selling; objections to Advertising.
  - Price: factors influencing pricing.

#### **Unit XII: Consumer Protection**

(Periods 16)

- Importance of consumer protection.
- Consumer rights.
- Consumer responsibilities.
- Ways and means of consumer protection – Consumer awareness and legal redressal with special reference to Consumer protection Act.
- Role of consumer organizations and NGOs.

#### **Unit XIII: Entrepreneurship Development**

(Periods 18)

- Concept, Functions and Need.
- Entrepreneurship Characteristics and Competencies.
- Process of Entrepreneurship Development.
- Entrepreneurial Values, Attitudes and Motivation – Meaning and Concept.



# ACCOUNTANCY

## ACCOUNTANCY (CLASSES XI-XII)

### Rationale

The course in 'Accountancy' is introduced at + 2 stage of Senior Secondary education, as formal commerce education is provided after first ten years of schooling.

With the fast changing economic scenario and business environment in a state of continuous flux, elementary business education along with accountancy as the language of business and as a source of financial information has carved out a place for itself at the Senior Secondary stage. Its syllabus content should give students a firm foundation in basic accounting principles and methodology and also acquaint them with the changes taking place in the presentation and analysis of accounting information, keeping in view the development of accounting standards and use of computers.

Against this background, the course puts emphasis on developing basic understanding about the nature and purpose of the accounting information and its use in the conduct of business operations. This would help to develop among students' logical reasoning, careful analysis and considered judgement.

Accounting as an information system aids in providing financial information. The emphasis at Class XI is placed on basic concepts and the process of accounting leading to the preparation of accounts for a sole proprietorship firm. Computerised accounting is becoming more and more popular with increased awareness about use of computers in business. Keeping this in view, the students are exposed compulsorily to the basic knowledge about computers and its use in accounting in the same year.

In Class XII, Accounting for Not-for-Profit Organisations and Partnership Firms are to be taught as a compulsory part. Students will also be given an opportunity to understand further about Computerised Accounting System, as an optional course to Company Accounts and Analysis of Financial Statements.

### Objectives

- To familiarise the students with accounting as an information system;
- To acquaint the students with basic concepts of accounting and accounting standards;
- To develop the skills of using accounting equation in processing business transactions;
- To develop an understanding about recording of business transactions and preparation of financial statements;
- To enable the students with accounting for reconstitution of partnership firms;
- To enable the students to understand and analyse the financial statements; and
- To familiarise students with the fundamentals of computerised system of accounting.

### Course Structure

Accountancy syllabus has been divided into four-semester course at the higher secondary stage. Each semester would be for about six months duration.



## CLASS XI

Semester I: Financial Accounting-I

Semester-II: Financial Accounting-II

## CLASS XII

Semester III: Accounting for Not-for-Profit Organisations and Partnership Firms

Semester IV: Company Accounts and Financial Statement Analysis

## CLASS XI

Semester I: Financial Accounting - I (Total Periods 104)

**Unit I: Introduction to Accounting** (Periods 12)

- Accounting – Meaning, Objectives, Accounting as source of information, Internal and External users of accounting information and their needs.
- Qualitative Characteristics of Accounting Information – Reliability, Relevance, Understandability and Comparability.
- Basic Accounting Terms – Asset, Liability, Capital, Expense, Income, Expenditure, Revenue, Debtors, Creditors, Goods, Cost, Gain, Stock, Purchase, Sales, Loss, Profit, Voucher, Discount, Transaction, Drawings.

**Unit II: Theory Base of Accounting** (Periods 12)

- Accounting Principles – Meaning and Nature.
- Accounting Concepts: Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition (Realisation), Matching, Accrual, Full Disclosure, Consistency, Conservatism, Materiality.
- Accounting Standards – Concept and List of Indian Accounting Standards.
- Accounting Mechanism – Single Entry and Double Entry.
- Bases of Accounting – Cash Basis, Accrual Basis.

**Unit III: Recording of Business Transactions** (Periods 20)

- *Voucher and Transactions*: Origin of Transactions – Source documents and Vouchers, Preparation of vouchers; Accounting equation approach – Meaning and Analysis of transactions using accounting equation; Rules of debit and credit.
- *Recording of Transactions*: Books of original entry – Journal, Special purpose books: (i) Cash book – Simple, Cashbook with bank column and Petty cashbook, (ii) Purchases book, Sales book, Purchases returns book, Sale returns book; Ledger: Meaning, Utility, Format; Posting from journal and subsidiary books; Balancing of accounts.
- *Bank Reconciliation Statement*: Meaning, Need and Preparation, Correct cash balance.



#### **Unit IV: Trial Balance and Rectification of Errors**

(Periods 20)

- Trial Balance: Meaning, Objectives and Preparation.
- Errors: Types of Errors; Errors affecting trial balance; Errors not affecting trial balance.
- Detection and Rectification of Errors (one sided and two sided); uses of suspense account.

#### **Unit V: Depreciation, Provisions and Reserves**

(Periods 20)

- *Depreciation*: Meaning and Need for charging depreciation, Factors affecting depreciation, Methods of depreciation — Straight line method, Written down value method (excluding change in method), Method of recording depreciation — charging to asset account, creating provision for depreciation/accumulated depreciation account; Treatment of disposal of an asset.
- *Provisions and Reserves*: Meaning, Importance, Difference between provisions and reserves, Types of reserves: Revenue reserve, Capital reserve, General reserve, Specific reserve and Secret reserve.

#### **Unit VI: Accounting for Bills of Exchange Transactions**

(Periods 20)

- Bills of exchange and Promissory note: Definition, Features, Parties, Specimen and Distinction.
- Important Terms: Term of Bill, Concept of Accommodation Bill, Days of grace, Date of maturity, Bill after date, Negotiation, Endorsement, Discounting of bill, Dishonour, Retirement and Renewal of a bill.
- Accounting treatment of bill transactions.

### **Semester II: Financial Accounting - II**

(Total Periods 104)

#### **Unit VII: Financial Statements**

(Periods 38)

- Financial Statements: Meaning and Users.
- Distinction between capital expenditure and revenue expenditure.
- Trading and Profit and Loss Account: Gross profit, Operating profit, Net profit.
- Balance Sheet: Need, Grouping, Marshalling of assets and liabilities, Vertical presentation of financial statement.
- Adjustments in preparation of financial statements with respect to Closing stock, Outstanding expenses, Prepaid expenses, Accrued income, Income received in advance, Depreciation, Bad debts, Provision for doubtful debts, Provision for discount on debtors, Managers' commission.
- Preparation of trading and profit and loss account and balance sheet of sole proprietorship.

#### **Unit VIII: Accounts from Incomplete Records**

(Periods 30)

- Incomplete Records: Meaning, Uses and Limitations.
- Ascertainment of profit/loss by Statement of Affairs method.
- Preparation of trading and profit and loss account and balance sheet.
- Ascertaining missing figures in Total debtors account, Total creditors account, Bill receivables, Bills payables and Cash book and Opening statement of affairs.





### **Unit IX: Computers in Accounting** (Periods 18)

- Introduction to Computer and Accounting Information System (AIS).
- Applications of computers in accounting:
  - Automation of accounting process, designing accounting reports, MIS reporting, data exchange with other information systems.
- Comparison of accounting processes in manual and computerised accounting, highlighting advantages and limitations of automation.
- Sourcing of accounting system: Readymade and customised and tailor-made accounting system. Advantages and disadvantages of each option.

### **Unit X: Accounting and Database System** (Periods 18)

- Accounting and Database Management System.
- Concept of Entity and Relationship: Entities and relationships in an Accounting System: Designing and Creating Simple Tables, Forms, Queries and Reports in the context of accounting system.

## **CLASS XII**

### **Semester III: Accounting for Not-for-Profit Organisations and Partnership Firms** (Total Periods 104)

#### **Unit I: Accounting Not-for-Profit Organisation** (Periods 24)

- Not-for-profit organisation: Meaning and Examples.
- Receipts and Payments: Meaning and Concept of fund based and non-fund based accounting.
- Preparation of Income and Expenditure account and Balance sheet from receipt and payment account with additional information.

#### **Unit II: Accounting for Partnership** (Periods 16)

- Nature of Partnership Firm: Partnership deed (meaning, importance).
- Final Accounts of Partnership: Fixed v/s Fluctuating capital, Division of profit among partners, Profit and Loss Appropriation account.

#### **Unit III: Reconstitution of Partnership** (Periods 40)

- Changes in profit sharing ratio among the existing partners – Sacrificing ratio and Gaining ratio.
- Accounting for Revaluation of Assets and Liabilities and Distribution of reserves and accumulated profits.
  - Goodwill: Nature, Factors affecting and Methods of valuation: Average profit, Super profit, Multiplier and Capitalisation methods.
  - Admission of a Partner: Effect of admission of partner, Change in profit sharing ratio, Accounting treatment for goodwill, Revaluation of assets and liabilities, Reserves (accumulated profits) and Adjustment of capitals.



- Retirement/Death of a Partner: Change in profit sharing ratio, Accounting treatment of goodwill, Revaluation of assets and liabilities, Adjustment of accumulated profits (Reserves).

#### **Unit IV: Dissolution of Partnership Firm**

(Periods 24)

- Meaning, Settlement of accounts: Preparation of realisation account and related accounts (excluding piecemeal distribution, sale to a company and insolvency of a Spartner)

### **Semester IV: Company Accounts and Financial Statement Analysis**

(Total Periods 104)

#### **Unit V: Accounting for Share and Debenture Capital**

(Periods 42)

- Share Capital: Meaning, Nature and Types.
- Accounting for Share Capital: Issue and Allotment of Equity and Preference Shares; Over subscription and Under subscription; Issue at par, premium and at discount; Calls in advance, Calls in arrears, Issue of shares for consideration other than cash.
- Forfeiture of Shares: Accounting treatment, Re-issue of forfeited shares.
- Presentation of shares and Debentures Capital in company's balance sheet.
- Issue of Debenture – At par, premium and discount; Issue of debentures for consideration other than cash.
- Redemption of debenture.
- Out of proceeds of fresh issue, accumulated profits and sinking fund.

#### **Unit VI: Analysis of Financial Statements**

(Periods 42)

- Financial Statements of a Company: Preparation of simple financial statements of a company in the prescribed form with major headings only.
- Financial Analysis: Meaning, Significance and Purpose, Limitations.
- Tools for Financial Analysis: Comparative statements, Common size statements.
- Accounting Ratios: Meaning and Objectives, Types of ratios:
  - Liquidity Ratios:* Current ratio, Liquidity ratio.
  - Solvency Ratio:* Debt to equity, Total assets to debt, Proprietary ratio.
  - Activity Ratio:* Inventory turnover, Debtors turnover, Payables turnover, Working capital turnover, Fixed assets turnover, Current assets turnover.
  - Profitability Ratio:* Gross profit, Operating ratio, Net profit ratio, Return on Investment, Earning per Share, Dividend per Share, Profit Earning ratio.





## **Unit VII: Statement of Changes in Financial Position**

(Periods 20)

- Cash Flow Statement: Meaning and Objectives, Preparation, Adjustments related to depreciation, dividend and tax, sale and purchase of non-current assets (as per revised standard issued by ICAI).

OR

## **Semester IV: Computerised Accounting System**

(Total Periods 104)

### **Unit I: Overview of Computerised Accounting System**

(Periods 10)

- Concept and Types of Computerised Accounting System (CAS).
- Features of a Computerised Accounting System.
- Structure of a Computerised Accounting System.

### **Unit II: Using Computerised Accounting System**

(Periods 30)

- Steps in installation of CAS, Preparation of chart of accounts, Codification and Hierarchy of account heads.
- Data entry, Data validation and Data verification.
- Adjusting entries, Preparation of financial statements, Closing entries and Opening entries.
- Security of CAS and Security features generally available in CAS (Students are expected to understand and practise the entire accounting process using an accounting package.)

### **Unit III: Accounting Using Database Management System (DBMS)**

(Periods 34)

- Concepts of DBMS.
- Objects in DBMS: Tables, Queries, Forms, Reports.
- Creating data tables for accounting.
- Using queries, forms and reports for generating accounting information. Applications of DBMS in generating accounting information such as shareholders' records, sales reports, customers' profile, suppliers' profile payroll, employees' profile, petty cash register.

### **Unit IV: Accounting Applications of Electronic Spreadsheet**

(Periods 30)

- Concept of an Electronic Spreadsheet (ES).
- Features offered by Electronic Spreadsheet.
- Applications of Electronic Spreadsheet in generating accounting information, preparing depreciation schedule, loan repayment schedule, payroll accounting and other such applications.



# LANGUAGE-ENGLISH

## 1. ABOUT LANGUAGE, LANGUAGE LEARNING AND MULTILINGUALITY

### 1.0 Introduction

This syllabus has primarily been conceptualised as a broad framework for teaching languages. We do hope that different states, districts and in some cases, maybe even some blocks, adopt and adapt this framework according to their local contexts, accommodating children with diverse abilities for their own area.

All human beings use language for a variety of purposes. Even children with most diverse abilities such as visually or hearing impaired use as complex and rich a system of communication as any 'normal child' does. It is therefore not at all surprising that most people think that they know many things **about** language. This is indeed unfortunate. Language is not only a means of communication; it is also a medium through which most of our knowledge is acquired; it is a system that to a great extent structures the reality around us for representing it in our minds; it is a marker of our identity in a variety of ways; and finally, it is closely associated with power in society. We should also remember that we use language not only to talk to others but also to ourselves, and that indeed is a very important function of language. How else shall we clarify our thoughts if we don't learn to talk to ourselves in the first instance?

We need language to understand different content areas such as History, Physics or Mathematics. Similarly, whether we see nature or society, we see it, to a large extent, in terms of our language. It is our language which tells us whether we see just *barf* or both 'ice' and 'snow' or above 20 words for a similar object as the Eskimos do. Any time a community wishes to fight for a separate state, it invariably brings in the issue of its language; many, in the case of India, would make serious efforts to have their language included in the 8<sup>th</sup> Schedule of the Constitution. And as far as the relationship of language with power is concerned, we all know that when we insist on a certain kind of pronunciation or writing system as being 'correct' and 'pure' and 'standard', we are in effect saying that if you wish to gain power in society, this is what you must do.

Most children learn not just one but several languages before they come to school. The number of words a child knows before she comes to school is over 5000 or so. Multilingualism is thus constitutive of our identity. Even the so-called 'monolingual' in a remote village often controls a verbal repertoire that equips her to function adequately over a large number of communicative encounters. We should also note that several recent studies have effectively demonstrated the positive relationship of multilingualism with cognitive growth, social tolerance, divergent thinking and scholastic achievement.



From the point of view of the science of language, all languages including what we call 'dialects', 'tribal', 'mixed' or 'impure' languages are equal; languages thrive in each other's company even when each one has its own quality and genius. In a multilingual class, it is absolutely imperative that every child's language is respected and becomes a part of the teaching strategies.

### 1.1 Language Faculty

All children learn not only the basic systems and subsystems of their language but also how to use them appropriately (i.e. they acquire not only linguistic but also communicative competence) before they are three years old. It is eminently possible to engage in a meaningful conversation with a three-year-old on any subject that falls within her cognitive domain. It therefore seems obvious that in addition to the rich and caring exposure that they receive, normal children may be born with an innate language faculty as Chomsky has argued. Even though all languages have different words for different objects and different kinds of phrases and expressions etc., we note that all have categories like Nouns, Verbs and Adjectives or either a Subject-Verb-Object (like English) or a Subject-Object-Verb (like Hindi) word order or that they will have several rules that cut across languages (see 1.2). The awareness that there is an innate Language Faculty has two important pedagogical consequences: given adequate exposure, children will acquire new languages with ease; the focus in teaching should be more on content than grammar.

### 1.2 Language as a Rule-governed System

For linguists, who study the structure of language in a scientific way, the grammar of a language is a highly abstract system consisting of several subsystems. At the level of sounds, languages of the world are closely associated with rhythm and music in terms of their intonation patterns and pitch contours. For example, no Indian language or even English allows more than three consonantal sounds at the beginning of a word, and even when three are allowed the choices are highly restricted. The first consonant can only be 's', the second only 'p', 't' or 'k' and the third only 'y', 'r', 'l' or 'w' as in Hindi *stri* 'woman' or in English 'spring', 'street', 'squash', 'screw' etc. Language is similarly rule-governed at the levels of words, sentences and discourse. Some of these rules are located in our innate Language Faculty but most are socio-historically constituted and show a considerable amount of variation across time and space both at the individual and social levels. Such linguistic variability is always present in a classroom and a teacher should be aware of it and use it as constructively as possible.

### 1.3 Speech and Writing

The fundamental difference between speech and writing is that written language is consciously monitored and frozen in time; we can return to it whenever we want. Spoken language is far more transient in nature and changes far more rapidly than the written language. One should not, therefore, be surprised to notice discrepancies between the spoken and written languages. There is no intrinsic relationship between speech and script; no sacrosanct connection between spoken English and the Roman script or between spoken Sanskrit or Hindi language and the Devanagari



script. In fact, all the languages of the world, with minor modifications, can be written in one script, just as any single language can be written in all the scripts of the world. Such awareness about the relationship between speech and script has important pedagogical implications. Teachers who become aware of this phenomenon often change their attitudes to errors and begin to develop innovative teaching methods.

#### 1.4 Language, Literature and Aesthetics

There are several functions of language which have been paid lip service by language education planners. Apart from having the quality of unfolding the world, language has many fictional elements. Poetry, prose and drama are potent sources not only of refining our literary sensibility but also of enriching our aesthetic life, enhancing our synaesthetic abilities and enormously improving our linguistic abilities, particularly reading comprehension and written articulation. Literature also includes jokes, irony, fantasy, story, parody and parable which pervade our everyday discourse.

At Tagore's Santiniketan, it was common practice that students would read a play with Tagore, translate it into Bangla, prepare to stage it, set up the stage and finally reach the play to the members of the community in all its glory. As Marx pointed out, a language education policy cannot afford to ignore the fictional, narrative, metaphysical or rhetorical elements of language and treat it only as a useful vehicle or tool for achieving some worldly gains. Human beings not only appreciate beauty but also often systematically codify laws that govern aesthetic dimensions. A considered appreciation of the aesthetic aspects of language would inevitably lead to a preference for linguistic vitality and creativity and help us to eliminate our obsession with purity and correctness. Such processes would ensure space for dialogue and negotiation rather than monologue and aggression. This would also hopefully lead to a respect for minor and endangered languages that is legitimately due to them. No community wishes to let its 'voice' die.

#### 1.5 Language and Society

Even though children appear to be born with an innate language faculty, individual languages are acquired in specific socio-cultural and political contexts. Every child learns what to say, to whom and where. As Labov has shown, languages are inherently variable, and different styles tend to be used in different contexts by different age groups. The variability in human linguistic behaviour is not thus randomly distributed but links systems of language, communication, thought and knowledge. As Aurorin points out, 'language cannot exist and develop outside society. Development of language is ultimately stimulated by our cultural heritage and the needs of social development, but we would not overlook the reverse dependence either. Human society cannot do without language as the most important, most perfect and universal means of communication, formation of thought and accumulation and transmission of expression.' It is equally important to realize that languages are not 'discrete objects out there', almost frozen in time and space, both physical and mental. They are actually constantly changing, fluid systems of behaviour which human beings acquire and change to define themselves and the world around them. Very often languages





are treated as entities and people form strong stereotypes about them. We need to be aware of both these aspects of language.

## 1.6 Language and Identity

An individual creates the patterns of her behaviour in terms of the group(s) she wishes to identify with, acquiring in the process communicative competence that enables her to move along a continuum varying from formal to informal language. More often than not we find identities to be in conflict with one another. The question of identity becomes particularly relevant in the case of minorities and there is a great need to be sensitive to their languages and cultures in the interest of national and global peace and harmony.

If language facilitates identification rather than mere discovery of some existing identity, it turns out to be something more than a marker of identity, maintenance and a repository of memories and symbols. It could be a springboard which could launch you into the as yet unfathomed depth of multiple possibilities.

## 1.7 Language and Power

In spite of the fact that all languages as abstract systems or subsystems are equal, the complex ways in which socio-historical and political forces interact with language, some languages become more prestigious than others and become associated with socio-political power. It is generally the language used by the elite that acquires power in society and becomes the standard language. All the grammars, dictionaries and various reference materials will invariably address this 'standard' language. From the point of view of science of language there is no difference between what is variously called standard language, pure language, dialect, variety, etc. A language is often defined as a dialect with an army and navy. More than anything else it is the socio-political and the economic considerations that make people decide the national, official, associate official languages to be used in education, administration, judiciary, mass media, etc. In principle, it is eminently possible to do anything in any language, including advanced research in humanities, social sciences and sciences. It should thus become obvious that languages of the underprivileged will never get empowered unless we provide support structures that would ensure their use in a variety of contexts.

## 1.8 Language and Gender

The issue of gender concerns not half but the whole of humanity. Over a period of time, language has coded in its texture a large number of elements that perpetuate gender stereotypes. It is not just that many scholars, including some distinguished linguists, have described female speech as 'trivial' and 'a string of pearls' signifying nothing, but a substantial part of the lexicon and syntactic expressions encode gender-bias. Detailed analysis of male-female conversation has also revealed how men use a variety of conversational strategies to assert their point of view.

The received notions of what it means to be 'masculine' or 'feminine' are constantly reconstructed in our behaviour and are, sometimes unwittingly perhaps, transmitted through our textbooks. In fact, the damage done by the 'gender construction of knowledge' is becoming



increasingly obvious. Language, including illustrations and other visual aids, plays a central role in the formation of such knowledge and we need to pay immediate attention to this aspect of language. It is extremely important that textbook writers and teachers begin to appreciate that the passive and deferential roles generally assigned to women are socio-culturally constructed and need to be destroyed as quickly as possible. Voices of women in all their glory need to find a prominent place in our textbooks and teaching strategies.

### 1.9 Objectives of Language Teaching

Since most children arrive in school with full-blown linguistic systems, the teaching of languages must have very specific objectives in the school curriculum. One of the major objectives of language teaching is to equip learners with the ability to read and write with understanding and to make them autonomous learners. Our effort is to sustain and enhance the degree of bilingualism and metalinguistic awareness that children have. We would also like to equip learners with such politeness strategies and powers of persuasion that they are able to negotiate all communicative encounters with tolerance and dignity.

Although there is a variety of teaching methods and materials, the language teaching classroom has remained one of the most boring and unchallenging sites of education, dominated largely by behaviourism and didacticism. In the case of languages children already know we rarely see any progress; in the case of a second language such as English, most children hardly acquire even the basic proficiency levels after 6-10 years of exposure and in the case of classical or foreign languages the total programme consists of memorization of some select texts and noun and verb paradigms. There is no dearth of empirical studies that support these observations. It is imperative that we analyse and understand our specific contexts, identify relevant objectives and develop suitable methods, materials and teacher-training modules accordingly.

For a very long time now, we have been talking in terms of LSRW skills as the objectives of languages teaching (in more recent times we have started talking about communicative skills, accent neutralization and voice training, etc. in an equally disastrous way). This exclusive focus on discrete skills has had fairly adverse consequences. We now plead for a more holistic perspective on language proficiency. After all, when we are *Speaking*, we are also simultaneously *Listening* and when we are *Writing*, we are also *Reading* in a variety of ways. And then there are many situations (e.g. friends reading a play together and taking notes for its production) in which all the skills in conjunction with a variety of other cognitive abilities are used together. We also need to appreciate the fact that the same text may have several different readings and different children may articulate their responses to a text in different voices. These are legitimate voices, even when they are far away from the 'accepted norm' and should be respected.

Cummins and Swain in their book *Bilingualism in Education* (Longman, London, 1986) have made a very fundamental distinction between Basic Interpersonal Communicative Skills (BICS) and Cognitively Advanced Language Proficiency (CALP). The language ability that is associated with BICS largely involves the skills to perform effectively in situations that are rich in context





and undemanding at the level of cognition. The language of here and now and that of peer group interaction belongs to the domain of BICS.

It would appear that BICS level abilities have to be acquired almost afresh in every language, though in multilingual societies such as that of India they do get far more easily acquired through natural acquisition processes. CALP level abilities are needed to perform effectively in contextually poor and cognitively demanding situations. It would generally be acquired in tutored language settings. For example, when a secondary or semi-secondary student is asked to write an essay on a topic he is not familiar with, or read a newspaper editorial to critique it he may have to invoke her CALP level abilities. These abilities often tend to get transferred from one language to another. We strongly believe that all children should leave school with CALP in at least three languages; they should of course know a couple of others at least at the level of BICS.

Some of our objectives would include:

- (a) *The competence to understand what she hears:* A learner must be able to employ various non-verbal clues coming from the speaker for understanding what has been said. She should also be skilled at listening and understanding in a non-linear fashion by making connections and drawing inferences. It is also important to appreciate that the sounds that are fundamental to the growth of children are not just individual language sounds; connected real-life speech with all its hesitation, pauses and silences is most important. Then there is a whole world of sounds out there; not just of the fan or the bus but also of the table and the sitar.
- (b) *Ability to read with comprehension, and not merely decode:* She should develop the habit of reading in a non-linear manner using various syntactic, semantic and graphophonemic cues. She must be able to construct meaning by drawing inferences and relating the text with her previous knowledge. She must also develop the confidence of reading the text with a critical eye and posing questions while reading. The ultimate test of reading ability is a critical appreciation of an unseen text that is at least one stage above the cognitive level of the reader.
- (c) *Effortless expression:* She should be able to employ her communicative skills in a variety of situations. Her repertoire must have a range of styles to choose from. She must be able to engage in a discussion in a logical, analytical and creative manner. All this will inevitably involve all kinds of LSRW at the same time.
- (d) *Coherent writing:* Writing is not a mechanical skill; it involves a rich control on grammar, vocabulary, content, punctuation as well as abilities to organise thoughts coherently often using a variety of cohesive devices such as linkers and lexical repetitions through synonymy, etc. A learner should develop the confidence to express her thoughts effortlessly and in an organised manner. The student must be encouraged and trained to choose her own topic, organise her ideas and write with a sense of audience. This is possible only if her writings are seen as a process and not as a product. She should be able to use writing for a variety of purposes and in a variety of situations ranging from informal to very formal.
- (e) *Control over different registers:* Language is never used in a uniform fashion. It has innumerable varieties, shades and colours which surface in different domains and in different situations.



These variations, known as registers, should form part of a student's repertoire. Besides the register of school subjects, a student must be able to understand and use the variety of language being used in other domains such as music, sports, films, gardening, construction work, cookery, etc.

- (f) *Scientific study of language*: In a language class, the teaching approaches adopted and the tasks undertaken should be such that they lead a child to go through the whole scientific process of collecting data, observing the data, classifying it according to its similarities and differences, making hypotheses, etc. Thus, linguistic tools can and must play a significant role in developing a child's cognitive abilities. This would be much better than teaching normative rules of grammar. Moreover, this approach is particularly effective in multilingual classrooms.
- (g) *Creativity*: In a language classroom, a student should get ample space to develop her imagination and creativity. Classroom ethos and teacher-student relationship build confidence in the latter to use her creativity in text transaction and activities uninhibitedly.
- (h) *Sensitivity*: Language classrooms can be an excellent reference point for familiarising students with our rich culture, heritage and aspects of our contemporary life. Language classroom and texts have a lot of scope to make students sensitive towards surroundings, people and the nation.

### 1.10 Some Pedagogical Proposals

Contemporary research on language acquisition has put the learner at the centre of language learning. It suggests that a learner will be able to effortlessly construct the grammar of a language if she is provided with comprehensible input in anxiety-free situations. As Krashen in his book *The Input Hypothesis* (Pergamon Press, Oxford, 1985) has suggested, input is likely to become intake only if the affective filter is low, i.e. the attitudes are positive and motivation is strong. There is no doubt that in some cases where even English becomes a foreign language it may help to some extent to invoke the conscious reflection of the learner on grammatical values. Krashen has shown how children tend to improve their own output when they are given sufficient freedom and time to edit what they have written. The emphasis on relatively ordered stages of cognitive growth has encouraged language teachers to look at errors as stages in the process of learning rather than as pathologies to be eradicated. One major implication of putting the learner at the centre of the teaching-learning enterprise is to treat their mother tongues with respect and as substantial cognitive resources. The stigma that is often associated with the use of the mother tongues in both public and private schools needs to be condemned and a constructive use of the mother tongues in the classrooms should be encouraged. A constructive use of children's mother tongues in the classroom does not simply mean using the interlingual translation extensively; it means that the whole language teaching pedagogy is located in multilinguality. Languages and cultures of children become powerful resources for the acquisition of the target language. There is a translinguistic perspective to poetry, drama, short story, novel and grammar. Some practical suggestions to this effect are given in the detailed syllabus of each language.





# ENGLISH

## (CLASSES IX–XII)

### Introduction

English in India is no longer a language of the colonial masters. In some important domains of activity, it has become an integral part of the Indian multilingual repertoire. In a variety of ways it has enriched Indian languages, which in turn have made significant contributions to English in India and as it is used abroad. The attitudes of the contemporary Indians towards English are significantly more positive than what we for example find in the Constituent Assembly Debates of 1946–1949.

English plays an important role in the domains of education, administration, business and political relations, judiciary, industry, etc. and is therefore a passport to social mobility, higher education, and better job opportunities. In urban India, it is very common to see young people code-mixing and code-switching between English and Indian languages. It is indeed unfortunate that English has so far remained associated with the rich, elite or upper middle class. It should be the effort of the Indian educational system to reach English to every Indian child and to ensure that she/he gains a sufficiently high level of proficiency in it and not suffer discrimination for lack of it.

The teaching and learning of English today is characterised by the diversity of schools and linguistic environments, and by systemically pervasive classroom procedures of teaching a textbook for success in an examination. The emphasis should be on teaching language use in meaningful and often multilingual contexts. For the majority of our learners, what is needed is a basic or fundamental competence in the target language. We need to develop a focus in which the research on language learning is integrated with language teaching. From the research in language learning, we know that children have an innate faculty to construct grammatical systems on their own. What we need to do in the classrooms, and to the extent possible, outside them is to create socio-cultural contexts that would encourage children to participate actively in understanding and creating appropriate communicative practices. It is extremely important that textbook writers and teachers realize that children learn as much outside as in the classroom, particularly in the case of language since it is there all around them all the time. Playgrounds, street hangouts, recreation centres, picnics, adventure tours etc are all important sites of language learning from a socio-cultural perspective. If these considerations inform the new textbooks, they are bound to look different. It would be largely unnecessary and futile to teach isolated grammatical items to students. Grammars would emerge from an active engagement in communicative practices. Input rich methodologies (such as the whole language, the task-based and the comprehensible input approaches) aim at exposure to the language in meaning-focused situations so as to trigger the formation of a language system by the learner.



Input-rich communicational environments are a prerequisite to language learning since languages are learnt implicitly by comprehending and communicating messages, either through listening or reading for meaning. A comprehensible input rich curriculum lays the foundation for spontaneous language growth, and different language skills develop simultaneously in communicative socio-cultural contexts rather than in any linear order as reflected in the traditional LSRW approaches. The learner can receive meaningful language input that is appropriate to his/her age and knowledge of language or readiness for language skills, given the variety and range of English-learning situations in India.

There is substantial evidence available now to show that Indian English as used by fluent educated Indian speakers does not differ in any significant way from standard varieties of English in UK or USA. There is no doubt that there are significant differences at the phonological and lexical levels. But that is also true of British and American English within those countries. Indian English can be considered a distinct variety with an identity and status of its own, and should serve as a model in teaching-learning situations.

### **What is to be taught and how?**

The goals of a language curriculum are twofold: attainment of a basic proficiency, and the development of language as an instrument for basic interpersonal communication and later for abstract thought and knowledge acquisition. One hopes that by the time a student finishes her school, she would become an autonomous learner. This argues for a language-across-the-curriculum approach that breaks down barriers between English and other languages and subject areas. At the initial stages, English may be one of the languages for learning activities designed to enhance children's awareness of their immediate surroundings. It is at this stage that the use of the languages of children may turn out to be most productive for teaching English. It is important to note that children effortlessly learn several languages if adequate comprehensible input is available in anxiety free situations. It is also important to note that simultaneous exposure to several languages does not, as many people tend to believe, 'confuse' children. These facts would constitute significant guidelines for teaching strategies in the classroom.

Input-rich communicational environments are essential for language learning. Inputs include textbooks, learner-chosen texts, class libraries, parallel books and materials in more than one language, media support (learner magazines/newspaper columns, radio/audio cassettes), and authentic materials.

Themes/sub-themes should be in conformity with the learners' immediate environment – physical, social and cultural. These should lead to an understanding and practice of the values enshrined in the Constitution of India, including the Fundamental Rights and Duties. The various sub-themes to be included are personal relationships, the neighbourhood, the larger community, the nation, the world, etc. In addition to textual materials, various other inputs can be brought into the language classroom, which include cards, charts, advertisements, texts produced by children, brochures, pamphlets, radio, T.V. news, etc.



In the case of textbooks, it is imperative that layout and illustrations etc are treated as integral to the text rather than as mere cosmetic add-ons.

## Language and Knowledge

Language learning is essentially a matter of acquiring the important skills of listening, speaking, reading and writing in an integrated manner, and harnessing these skills to the performance of formal as well as informal communication tasks. We would expect that by the end of Class XII, every child would have acquired the whole range of skills and abilities subsumed under the continuum ranging from the Basic Interpersonal Communicative Skills (BICS) to Cognitively Advanced Language Proficiency (CALP).

Language is not only a means of communication, it is also a medium through which most of our knowledge is acquired. It is a system that, to a great extent, structures the reality around us. Language acquisition involves processes of scientific enquiry such as observation of data, classification and categorisation, hypothesis formation and its verification. It should be possible to use the languages available in the classroom not only for the enhancement of above cognitive abilities but also for increasing language proficiency and sensitivity. Such exercises prove particularly useful in the conscious use of language rules in formal situations.

Social harmony in a country as diverse as India is only possible through mutual respect for each other's language and culture. Such respect can only be built on knowledge. At all levels, the materials need to be sensitive to perspectives of equity (gender and societal), dignity of manual work, and peace and harmony (between humans, and between humans and nature). A substantial part of our existing knowledge carries a distinct gender bias. If we wish that our dream of a democratic society should become a reality, we must make every effort to eliminate gendered construction of knowledge.

In spite of all major technological breakthroughs, we know that the textbook will continue to be the major source of knowledge for the ordinary child. It is therefore important to produce textbooks that are contextually rich and provide incentives to the innate curiosity and creativity of learners. The process of materials preparation should include close collaboration with teachers and children and with various agencies that have rich experience in producing textbooks and related materials. Every possible effort should be made to reflect the potential of using multilingualism as a teaching strategy in the classroom. It is of course neither possible nor desirable to have examples from all the 22 languages listed in the 8<sup>th</sup> Schedule of the Constitution. What is required is just a few examples that would illustrate that language data can be elicited from children and that they can actively participate in its classification, categorisation and analysis to arrive at linguistically significant generalisations. It should also be necessary to develop feedback mechanisms, which will help us improve the materials on a regular basis. A teacher's handbook spelling out methods and techniques, and notes for the teachers in the textbook itself, could prove to be of great practical value.



## **Skills to be fostered**

The development of linguistic proficiency in the learner is needed for the spontaneous and appropriate use of language in different situations.

- The learner should acquire the ability to listen and understand, and should be able to employ non-verbal clues to make connections and draw inferences.
- The learner should develop the habit of reading for information and pleasure; draw inferences and relate texts to previous knowledge; read critically and develop the confidence to ask and answer questions.
- The learner should be able to employ her communicative skills, with a range of styles, and engage in a discussion in an analytical and creative manner.
- The learner should be able to identify a topic, organise and structure thoughts and write with a sense of purpose and an awareness of audience.
- The learner should be able to understand and use a variety of registers associated with domains such as music, sports, films, gardening, construction work, etc.
- The learner should be able to use a dictionary and other materials available in the library and elsewhere, access and collect information through making and taking down notes, etc.
- The learner should be able to use language creatively and imaginatively in text transaction and performance of activities.
- The learner should be able to develop sensitivity towards their culture and heritage, aspects of contemporary life and languages in and around the classroom.
- The learner should be able to refine their literary sensibility and enrich their aesthetic life through different literary genres.
- The learner should be able to appreciate similarities and differences across languages in a multilingual classroom and society.
- It is important for the learner to notice that different languages and language varieties are associated with different domains and communicative encounters.
- The learner should become sensitive to the inherent variability that characterises language and notice that languages keep changing all the time. It is possible for a student to notice the differences between her own speech and the speech of her, say, grandparents.

## **Attitudes to be nurtured**

Attitudes and motivation of learners and teachers play an important role in all learning, including language learning. When the teacher is positively inclined towards pupils of diverse linguistic, ethnic and socio-cultural backgrounds, pupils will also tend to get positively motivated and involved in the teaching-learning processes. It is extremely important that teachers begin to appreciate the fact that all languages represented in their multilingual classrooms are equally scientific and should receive equal respect from the teacher and the taught. The teacher should also begin to use the multilingual classroom as a resource. Languages flourish in each other's company. They die when



they are isolated as 'pure objects'. Languages which have become powerful in the modern world have gone through a process of constant borrowing at all levels from other languages and they have still not closed their doors. The day they do so, they will start their journey on the path of destruction. The teacher's positive attitude will go a long way in lowering the anxiety levels of learners, while raising their awareness levels of self-respect, self-discipline, respect and care for others, interdependence and co-operation.

## Content

The ten core components identified in the National Policy of Education must be suitably integrated in school curriculum. These components, which will cut across all subject areas, should be reinforced in the whole range of inputs (print and non-print, formal and informal) for teaching/learning at various stages of school education.

Since all contemporary concerns and issues cannot be included in the curriculum as separate subjects of study, some emerging concerns like environmental issues, conservation of resources, population concerns, disaster management, forestry, animals and plants, human rights, safety norms and sustainable development should be suitably incorporated in the course content. Course materials should also draw upon the following concerns in an integrated manner:

1. Self, Family, Home, Friends and Pets
2. Neighbourhood and Community at large
3. The Nation – diversity (socio-cultural, religious and ethnic, as well as linguistic), heritage (myths/legends/folktales)
4. The World – India's neighbours and other countries (their cultures, literature and customs)
5. Adventure and Imagination
6. Sports
7. Issues relating to Adolescence
8. Science and Technology
9. Peace and Harmony
10. Travel and Tourism
11. Mass Media
12. Art and Culture
13. Health and Reproductive health

The thematic package given above is suggestive and at each stage should be in line with learners' cognitive level, interest and experience. In every textbook, there should be some lessons, which are translations from other languages.

## Curricular Package

It is recommended that the package for each class except for the primary stage (Classes I -V) will consist of a textbook and a supplementary reader. The textbook should contain not more



than 10 comprehensive units (lessons, exercises and activities) and five/six poems of varying lengths depending on the class. The workbook, if there is one, will have the same number of corresponding worksheets as the number of the comprehensive units of the textbook. The supplementary reader will have about eight pieces meant essentially for self-study promoting reading for information and pleasure.

The recommended weightage in terms of marks is 40% for the textbook, 40% for language work including oral testing and 20% for the supplementary reader.

The curricular package for Classes XI-XII (Elective Course) will consist of: Class XI — (i) An Anthology of Poems, (ii) A Short Novel, (iii) A Book of Essays, and (iv) A Book of Grammar and Phonology, (Part-I); Class XII — (i) An Anthology of Short Stories, (ii) A Short Novel (Indian Writing in English), (iii) A Selection of One-Act Plays, and (iv) A Book of Grammar and Phonology, (Part-II).

### Time Available

There are about 180 working days available for teaching/learning amounting to one period per day allotted to the teaching of English. The actual number of periods available, however, may be about 150. The size of the curricular package should be such as can be conveniently covered in the given time.

### Evaluation

Evaluation in language should be periodic, preferably at regular intervals of 4 to 6 weeks of actual instruction. Evaluation should be both oral and written. Periodic tests should carry a weightage of fifty per cent — twenty-five per cent each to oral and written. The marks should be taken into account in the final grade.

Results of tests and examinations should be treated basically as feedback to teachers. They should guide them in programming their teaching and in organising remedial work. Evaluation should be linked to assessment of general proficiency rather than to specific achievements.

## CLASSES IX-X

### Background

Traditionally, language-learning materials beyond the initial stages have been sourced from literature: prose, fiction and poetry. While there is a trend for inclusion of a wider range of contemporary and authentic texts, accessible and culturally appropriate pieces of literature should play a pivotal role at the secondary stage of education. The English class should not be seen as a place merely to read poems and stories in, but an area of activities to develop the learner's imagination as a major aim of language study, and to equip the learner with communicative skills to perform various language functions through speech and writing.



## Objectives

The general objectives at this stage are:

- to build greater confidence and proficiency in oral and written communication
- to develop the ability and knowledge required in order to engage in independent reflection and inquiry
- to use appropriate English to communicate in various social settings
- to equip learners with essential language skills to question and to articulate their point of view
- to build competence in the different registers of English
- to develop sensitivity to, and appreciation of, other varieties of English, Indian Englishes, and the culture they reflect
- to enable the learner to access knowledge and information through reference skills (consulting a dictionary/thesaurus, library, internet etc.)
- to develop curiosity and creativity through extensive reading
- to facilitate self-learning to enable them to become independent learners
- to review, organise and edit their own work and work done by the peers

At the end of this stage learners will be able to do the following:

- give a brief oral description of events/incidents of topical interest
- retell the contents of authentic audio texts (weather reports, public announcements, simple advertisements, short interviews, etc.)
- participate in conversations, discussions, etc. on topics of mutual interest in non-classroom situations
- narrate the story depicted pictorially or in any other non-verbal mode
- respond in writing to business letters, official communications
- read and identify the main points/significant details of texts like scripts of audio-video interviews, discussions, debates, etc.
- write without prior preparation on a given topic and be able to defend or explain the position taken/views expressed
- write a summary of short lectures on familiar topics by making/taking notes
- write an assessment of different points of view expressed in a discussion/debate
- read poems effectively (with proper rhythm and intonation)
- grasp the theme of the poem and appreciate the creative uses of language
- to transcode information from a graph/chart to a description/report

## Language Items

In addition to consolidating the grammatical items practised earlier, the courses at secondary level will seek to reinforce the following explicitly:

- sequence of tenses
- reported speech in extended texts



- modal auxiliaries (those not covered at upper primary)
- non-finites (infinitives, gerunds, participles)
- conditional clauses
- complex and compound sentences
- phrasal verbs and prepositional phrases
- cohesive devices
- punctuation (semicolon, colon, dash, hyphen, parenthesis or use of brackets and exclamation mark)

## Methods and Techniques

The methodology will be based on a multi-skill, activity based, learner centred approach. Care would be taken to fulfil the functional (communicative), literary (aesthetic) and cultural (sociological) needs of the learner. In this situation the teacher is the facilitator of learning, s(he) presents language items, contrives situations which motivate the child to use English for the purposes of communication and expression. Aural-oral teaching and testing is an integral feature of the teaching-learning process. The electronic and print media could be used extensively. The evaluation procedure should be continuous and comprehensive. A few suggested activities are:

- Role playing
- Simulating real-to-life situations
- Dramatising and miming
- Problem solving and decision making
- Interpreting information given in tabular form and schedule
- Using newspaper clippings
- Borrowing situations from the world around the learners, from books and from other disciplines
- Using language games, riddles, puzzles and jokes
- Interpreting pictures/sketches/cartoons
- Debating and discussing
- Narrating and discussing stories, anecdotes, etc.
- Reciting poems
- Working in pairs and groups
- Using media inputs — computer, television, video cassettes, tapes, software packages.

## ENGLISH (CORE) CLASSES XI-XII

### Background

Students are expected to have acquired a reasonable degree of language proficiency in English by the time they come to Class XI, and the course will aim, essentially, to promote the higher-order language skills.



For a large number of students, the higher secondary stage will be a preparation for the university, where a fairly high degree of proficiency in English may be required. But for another large group, the higher secondary stage may be a preparation for entry into the world of work. The Core Course should cater to both groups by promoting the language skills required for academic study as well as the language skills required for the workplace.

## Objectives

The general objectives at this stage are:

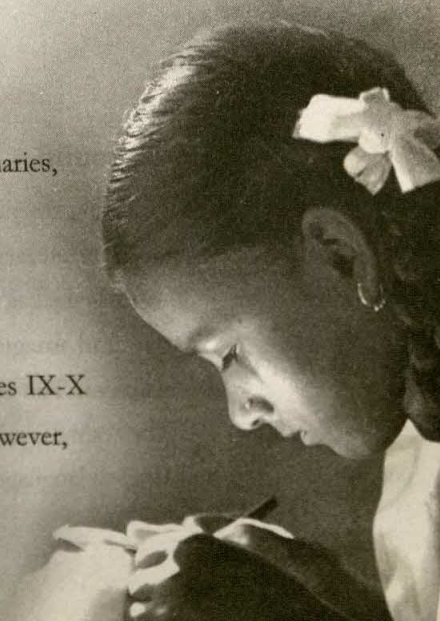
- to listen to and comprehend live as well as recorded oral presentations on a variety of topics.
- to develop greater confidence and proficiency in the use of language skills necessary for social and academic purposes.
- to participate in group discussions/interviews, making short oral presentations on given topics.
- to perceive the over-all meaning and organisation of the text (i.e., the relationships of the different “chunks” in the text to each other).
- to identify the central/main point and supporting details, etc.
- to build communicative competence in various registers of English.
- to promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities.
- to translate texts from Mother Tongue(s) into English and vice versa.
- to develop ability and knowledge required in order to engage in independent reflection and enquiry.
- To develop the capacity to appreciate literary use of English and also use English creatively and imaginatively.

At the end of this stage learners will be able to do the following:

- read and comprehend extended texts (prescribed and non-prescribed) in the following genres: fiction, science fiction, drama, poetry, biography, autobiography, travel and sports literature, etc.
- text-based writing (i.e., writing in response to questions or tasks based on prescribed or unseen texts)
- understand and respond to lectures, speeches, etc.
- write expository/argumentative essays of 250-500 words, explaining or developing a topic, arguing a case, etc.
- write formal/informal letters and applications for different purposes.
- write items related to the workplace (minutes, memoranda, notices, summaries, reports; filling up of forms, preparing CVs, e-mail messages, etc.).
- taking/making notes from reference materials, recorded talks etc.

## Language Items

The Core Course should draw upon the language items suggested for Classes IX-X and delve deeper into their usage and functions. Particular attention may, however, be given to the following areas of grammar:





- the uses of different tense forms for different kinds of narration (e.g. media commentaries, reports, programmes, etc.).
- the use of passive forms in scientific and innovative writings.
- converting one kind of sentence/clause into a different kind of structure as well as other items to exemplify stylistic variations in different discourses.
- modal auxiliaries — uses based on semantic considerations.

The study of formal (descriptive) grammar, at a very elementary level, will be introduced in Class XI. A book for the Core Course containing suitable exercises on grammar as well as basic phonology is recommended. A conscious knowledge of some grammatical rules and sound patterns may be useful and interesting at this stage.

### Methods and Techniques

The techniques used for teaching should promote habits of self-learning and reduce dependence on the teacher. In general, we recommend a multi-skill, learner-centred, activity based approach, of which there can be many variations. The core classroom activity is likely to be that of silent reading of prescribed/selected texts for comprehension, which can lead to other forms of language learning activities such as role play, dramatisation, group discussion, writing, etc. (although many such activities could be carried out without the preliminary use of textual material). It is important that students be trained to read independently and intelligently, interacting actively with texts, with the use of reference materials (dictionaries, thesauruses, etc.) where necessary. Some pre-reading activity will generally be required, and the course books should suggest suitable activities, leaving teachers free to devise other activities when desired. So also, the reading of texts should be followed by post reading activities. It is important to remember that every text can generate different readings. Students should be encouraged to interpret texts in different ways.

Group and pair activities can be resorted to when desired, but many useful language activities can be carried out individually.

In general, teachers should encourage students to interact actively with texts and with each other. Oral activity (group discussion, etc.) should be encouraged.

## ENGLISH (ELECTIVE) CLASSES XI-XII

### Background

The course is intended to give students a high level of competence in English with an emphasis on the study of literary texts and will provide extensive exposure to a variety of rich texts of world literature as well as to Indian writings in English, including classics, and develop sensitivity to the creative and imaginative uses of English and give them a taste for reading with delight and discernment. The course will be pitched at a level which the students may find challenging.

The course is primarily designed to equip the students to pursue higher studies in English literature and English language at the college level and prepare students to become teachers of English.





## Objectives

The general objectives at this stage are:

- to provide extensive exposure to a variety of writings in English including some classics.
- to develop sensitivity to the literary and creative uses of language.
- to further expand the learners' vocabulary resources through the use of dictionary, thesaurus and encyclopaedia.
- to develop a taste for reading with discernment and delight.
- to initiate the study of formal English grammar and elementary linguistics and phonetics.
- to enable learners to translate texts from mother tongue into English and vice versa.
- to critically examine a text and comment on different aspects of it.

At the end of this stage the Elective Course would ensure that the learner

- grasps the global meaning of the text, its gist and understands how its theme and sub-theme relate.
- relates the details to the message in it; for example, how the details support a generalization or the conclusion either by classification or by contrast and comparison.
- comprehends details, locates and identifies facts, arguments, logical relationships, generalizations, conclusions, etc.
- draws inferences, supplies missing details, predicts outcomes, grasps the significance of particular details and interprets what he/she reads.
- assesses the attitude and bias of the author.
- infers the meanings of words and phrases from the context; differentiates between apparent synonyms and appreciates the nuances of words.
- appreciates stylistic nuances, the lexical structure, its literal and figurative use and analyses a variety of texts.
- identifies different styles of writing like humorous, satirical, contemplative, ironical and burlesque.
- does text-based writing (writing in response to questions or tasks based on prescribed as well as 'unseen' texts).
- develops the advanced skills of reasoning, making inferences, judgements, etc.
- develops familiarity with the poetic uses of language including features of language through which artistic effect is achieved.

## GRAMMAR

Students opting for the Elective Course will be introduced to the study of the basics of English grammar and phonology. It is recommended that a book based on a suitable pedagogical model that presents the basics of functional grammar and the bare essentials of the phonology of English be used.

The basic concepts in the phonology of English will include the sounds of English, the syllable stress, strong and weak forms and intonation. The course will help the students consult a pronouncing dictionary when required.



## Methods and Techniques

The techniques used for teaching should promote habits of self-learning and reduce dependence on the teacher. The multi-skill, learner-centred, activity based approach already recommended for the previous stages of education, is still in place, though it will be used in such a way that silent reading of prescribed/selected texts for comprehension will receive greater focus as one of the activities. Learners will be trained to read independently and intelligently, interacting actively with texts and other reference materials (dictionary, thesaurus, encyclopaedia, etc.) where necessary. Some pre-reading activity will generally be required, and course books should suggest those. The reading of texts should be followed by post reading activities. It is important to remember that every text can generate different readings. Students should be encouraged to interpret texts in different ways, present their views of critics on a literary text and express their own reactions to them. Some projects may be assigned to students from time to time. For instance, students may be asked to put together a few literary pieces on a given theme from English as well as regional literatures.



# भाषा-हिंदी

## 1. भाषा, भाषा-शिक्षण और बहुभाषिता

### 1.0 परिचय

यह पाठ्यक्रम भाषा पढ़ाने के लिए एक विस्तृत रूपरेखा के रूप में बनाया गया है। हमें आशा है कि इस रूपरेखा को विभिन्न राज्य, जिले और कुछ सीमा तक प्रखंड भी अपने स्थानीय संदर्भों और अपने क्षेत्र के बच्चों की विभिन्न क्षमताओं के अनुसार अपनाएँगे।

सभी मनुष्य विभिन्न उद्देश्यों के लिए भाषा का इस्तेमाल करते हैं। यहाँ तक कि विविध प्रकार की अक्षमता वाले बच्चे, जैसे- दृष्टिबाधित या श्रवणबाधित बच्चे भी संप्रेषण की जटिल और समृद्ध) व्यवस्था का प्रयोग करते हैं, जिस प्रकार कोई भी सामान्य बच्चा करता है। इसलिए इसमें आश्चर्य की कोई बात नहीं है कि अधिकांश व्यक्ति यह सोचते हैं कि वे भाषा के बारे में बहुत कुछ जानते हैं। निःसंदेह यह स्थिति दुर्भाग्यपूर्ण है। भाषा केवल संप्रेषण का साधन ही नहीं है, बल्कि यह एक माध्यम भी है जिसके सहारे हम अधिकांश जानकारी प्राप्त करते हैं। यह एक व्यवस्था है जो काफी सीमा तक हमारे आस-पास की वास्तविकताओं और घटनाओं को हमारे मस्तिष्क में व्यवस्थित करती है। यह कई तरीकों से हमारी पहचान का एक चिह्न है और अंततः यह समाज में सत्ता-शक्ति से बहुत नज़दीक से जुड़ी हुई है। हमें यह भी याद रखना चाहिए कि हम केवल दूसरों से बात करने के लिए ही नहीं, बल्कि अपने आपसे भी बात करने के लिए भाषा का इस्तेमाल करते हैं। यह वास्तव में भाषा का महत्वपूर्ण कार्य है। हम अपने विचारों को कैसे स्पष्ट कर सकते हैं जब तक कि हम पहले अपने आप से बात करना न सीखें।

विभिन्न विषय-क्षेत्रों, जैसे-इतिहास, भौतिक विज्ञान अथवा गणित को समझने के लिए हमें भाषा की आवश्यकता होती है। चाहे हम प्रकृति को देखें या समाज को हम काफी हद तक उन्हें अपनी भाषा की संरचना के माध्यम से ही देखते हैं। यह हमारी भाषा है जो हमें यह बताती है कि हम 'बर्फ' देखते हैं या 'आइस' या फिर आइस और 'स्नो' दोनों देखते हैं अथवा एक ही वस्तु के लिए 20 से भी अधिक शब्द- जैसा कि एस्कीमो देखते हैं। अपनी भाषा के मुद्दे को लगातार आधार बनाकर कोई भी समुदाय किसी भी समय एक अलग राज्य की माँग कर सकता है। भारत में कई बार संविधान की आठवीं अनुसूची में अपनी भाषाओं को शामिल कराने के लिए गंभीर प्रयास किए गए हैं। जहाँ तक भाषा और सत्ता/वर्चस्व के संबंध का प्रश्न है- हम सभी जानते हैं कि जब हम किसी खास तरह के उच्चारण अथवा लेखन-व्यवस्था को सही, शुद्ध और मानक के रूप में देखते हैं तो दरअसल हम यह कहना चाहते हैं कि समाज में वर्चस्वशाली समूह का अंग बनने के लिए आपको इसी को अपनाना होगा और व्यवहार में लाना होगा।

अधिकांश बच्चे स्कूल आने से पहले केवल एक भाषा नहीं, बल्कि अक्सर अनेक भाषाएँ सीख लेते हैं। स्कूल आने से पहले बच्चा लगभग पाँच हजार अथवा उससे भी अधिक शब्दों को जानता है। अतः बहुभाषिकता हमारी पहचान अथवा अस्मिता की निर्धारक है। यहाँ तक कि दूर-दराज के गाँवों का तथाकथित एक 'एकल भाषी' भी अनेक संप्रेषणात्मक स्थितियों में सही तरीके की भाषा इस्तेमाल करने की क्षमता रखता है। अनेक अध्ययनों से पता चला है कि बहुभाषिकता का संज्ञानात्मक विकास, सामाजिक सहनशीलता, विकेंद्रित चिंतन एवं शैक्षिक उपलब्धि से सकारात्मक संबंध होता है। भाषावैज्ञानिक दृष्टि से, सभी भाषाएँ चाहे वे बोली, आदिवासी या खिचड़ी भाषाएँ हों, सब समान रूप



से वैज्ञानिक होती हैं। भाषाएँ एक-दूसरे के सान्निध्य में फलती-फूलती हैं साथ ही अपनी विशेष पहचान भी बनाकर रखती हैं। बहुभाषिक कक्षा में यह बिल्कुल अनिवार्य होना चाहिए कि हर बच्चे की भाषा को सम्मान दिया जाए और बच्चों की भाषायी विभिन्नता को शिक्षण-विधियों का हिस्सा मान कर भाषा सिखाई जाए।

### 1.1 भाषा-क्षमता

सभी बच्चे तीन साल की उम्र से पहले ही न केवल अपनी भाषा की बुनियादी संरचनाएँ और उपसंरचनाएँ सीख जाते हैं, बल्कि वे यह भी सीख जाते हैं कि विभिन्न परिस्थितियों में इनका किस प्रकार उचित प्रयोग करना है। (उदाहरण के लिए वे केवल भाषिक दक्षता नहीं, बल्कि संप्रेषण की दक्षता भी सीखते हैं) तीन साल के बच्चे के संज्ञानात्मक क्षेत्र में आने वाले किसी भी विषय पर उसके साथ सार्थक बातचीत की जा सकती है। अतः यह स्वाभाविक है कि समृद्ध और संवेदनपरक अवसरों वाले बच्चों के अलावा सामान्य बच्चे जन्मजात/नैसर्गिक भाषा-क्षमता के साथ पैदा होते हैं- जैसे कि चॉम्स्की ने तर्क दिए हैं। यह सच है कि विभिन्न भाषाओं में विभिन्न वस्तुओं के लिए विभिन्न शब्द होते हैं और विभिन्न तरह के पदबंध और अभिव्यक्तियाँ आदि होती हैं, फिर भी हम जानते हैं कि हर भाषा में संज्ञा, क्रिया और विशेषण जैसी श्रेणियाँ होती हैं अथवा कर्ता+क्रिया+कर्म (अंग्रेज़ी की तरह) या कर्ता+कर्म+क्रिया (हिंदी की तरह) का शब्द क्रम होता है। इसके अतिरिक्त उनके अपने कई नियम होते हैं जो सभी भाषाओं में अपने होते हैं। (1.2 देखें) भाषा क्षमता को जन्मजात/नैसर्गिक मानने पर हासिल होने वाले शिक्षण पद्धति संबंधी दो निष्कर्ष अत्यंत महत्वपूर्ण हैं। बच्चों को समुचित अवसर प्रदान करना जिससे बच्चे सहजता के साथ नई भाषा को सीख सकें। दूसरा, पढ़ाते समय व्याकरण की अपेक्षा विषयवस्तु पर अधिक ध्यान देना।

### 1.2 नियमबद्ध व्यवस्था के रूप में भाषा

वैज्ञानिक तरीके से भाषा की संरचना का अध्ययन करने वाले भाषावैज्ञानिकों के लिए किसी भी भाषा का व्याकरण अनेक उपव्यवस्थाओं से बनी एक बहुत अमूर्त व्यवस्था है। ध्वनि के स्तर पर संसार की भाषाएँ अपनी अनुतान संरचनाओं और सुर रेखाचित्र के रूप में लय और संगीत के साथ निकटता के साथ जुड़ी हुई हैं। उदाहरण के लिए किसी भी भारतीय भाषा में अथवा यहाँ तक कि अंग्रेज़ी में भी शब्द के शुरू में तीन व्यंजन ध्वनियाँ एक साथ नहीं आतीं और जहाँ भी इन तीन ध्वनियों के आने के विकल्प हैं- वे बहुत सीमित हैं। पहला व्यंजन 'स्' (s) दूसरा व्यंजन केवल 'प' (p), 'त' (t) अथवा 'क' (k) तथा तीसरा व्यंजन केवल 'य' (y), 'र' (r) 'ल' (l) अथवा 'व' (w) ही हो सकता है जैसा कि हिंदी के 'स्त्री' शब्द में। अंग्रेज़ी में 'spring', 'street', 'squash', 'screw' आदि भी इसी प्रकार के उदाहरण हैं। भाषा शब्द, वाक्य और प्रोक्ति (discourse) के स्तर पर नियमों से बंधी हुई है। इनमें से कुछ नियम हमारी जन्मजात भाषा-क्षमता में पहले से ही खूब होते हैं लेकिन अधिकांश नियम सामाजिक-ऐतिहासिक परिवेश में संप्रेषण के माध्यम से बनते हैं। उनमें सामाजिक व क्षेत्रीय विविधता देखने को मिलती है। इस तरह की भाषिक विविधता कक्षा में हमेशा उपस्थित रहती है और एक शिक्षक को उसकी जानकारी होनी चाहिए। साथ ही जहाँ तक संभव हो उसका सकारात्मक प्रयोग करना चाहिए।

### 1.3 बोलना और लिखना

बोलने और लिखने में जो बुनियादी अंतर है वह यह है कि लिखित भाषा सचेत रूप से नियंत्रित रहती है तथा समय में स्थिर हो जाती है। हम जब चाहें तब उस पर वापस आ सकते हैं। मौखिक भाषा अपनी प्रकृति में क्षणिक और लिखित भाषा की तुलना में बहुत जल्दी बदलने वाली होती है। इसलिए मौखिक और लिखित भाषा के बीच की असंगति को लेकर किसी को आश्चर्यचकित होने की आवश्यकता नहीं है। वाक् और लिपि के बीच कोई दैविक संबंध नहीं है। मौखिक अंग्रेज़ी और रोमन लिपि के बीच अथवा मौखिक संस्कृत अथवा हिंदी भाषा तथा देवनागरी लिपि के बीच कोई परमपावन संबंध नहीं है। वास्तव में संसार की सभी भाषाएँ कुछ मामूली बदलाव/संशोधन/परिवर्तन के साथ एक ही लिपि में लिखी जा सकती हैं, ठीक उसी तरह जिस तरह



एक भाषा को संसार की सभी लिपियों में लिखा जा सकता है। वाक् एवं लिपि के बीच इस संबंध के प्रति जागरूकता के कई महत्वपूर्ण शैक्षिक निहितार्थ हैं। जो शिक्षक इस वस्तुस्थिति अथवा तथ्य से परिचित हैं वे अकसर त्रुटियों के प्रति अपने दृष्टिकोण में बदलाव लाते हैं तथा नवाचारी शिक्षण-विधियों का विकास करना प्रारंभ करते हैं।

## 1.4 भाषा, साहित्य और सौंदर्यबोध

भाषा के अनेक पक्ष हैं जिनके बारे में भाषा शिक्षा के योजनाकार गंभीरता से विचार नहीं करते।

संसार को उद्घाटित करने की विशेषता के अलावा भाषा के कई प्रकार्यात्मक तत्व हैं। कविता, गद्य और नाटक न केवल हमारी साहित्यिक संवेदनशीलता को परिष्कृत करते हैं बल्कि हमारे सौंदर्यबोध को भी समृद्ध बनाते हैं, विशेषरूप से पठन-अवबोधन एवं लिखित के उच्चारण को। साहित्य में चुटकुले, व्यंग्य, काल्पनिकता, कहानी, पैरोडी, दृष्टान्त/नीति कथा भी शामिल हैं जो हमारी दिन-प्रतिदिन की बातचीत में शामिल होते हैं और उनका विस्तार करते हैं।

टैगोर के शांतिनिकेतन में, यह एक सामान्य अभ्यास होता था कि विद्यार्थी टैगोर के साथ नाटक पढ़ते थे, बांग्ला में उसका अनुवाद करते थे, मंचन करने के लिए उसे तैयार करते थे और अपनी पूरी आभा के साथ समुदाय के सदस्यों के सामने नाटक प्रस्तुत करते थे। जैसा कि मार्क्स ने संकेत किया है- भाषा-शिक्षा की नीति भाषा के प्रकार्यात्मक, कथात्मक, तत्वमीमांसापरक तत्वों की उपेक्षा नहीं कर सकती और न ही उसे केवल सांस्कृतिक लाभों को प्राप्त करने के लिए उपयोगी उपकरण के रूप में देख सकती है। मनुष्य न केवल सौंदर्य की सराहना करते हैं बल्कि अनेक बार सौंदर्यबोधी आयामों को नियंत्रित करने वाले नियमों को व्यवस्थित रूप से क्रमबद्ध भी करते हैं। वह भाषा के सौंदर्यपरक पक्ष की पर्याप्त सराहना, शुद्धता और सही के प्रति लगाव की अपेक्षा भाषिक गुणवत्ता और सृजनात्मकता को आवश्यक रूप से प्राथमिकता देती है। इस तरह की प्रक्रियाएँ एकालाप/आत्मसंवाद एवं आक्रामकता की अपेक्षा संवाद एवं समझौते को बढ़ावा देती हैं। आशा है कि अल्पसंख्यक और लुप्त प्रायः भाषा के प्रति इससे उस सम्मान में भी वृद्धि होगी जिसकी वे हकदार हैं। कोई भी समुदाय यह नहीं चाहता कि उसकी 'आवाज' को हमेशा के लिए खामोश कर दिया जाए।

## 1.5 भाषा एवं समाज

हालांकि यह ठीक है कि बच्चे जन्मजात भाषा-क्षमता के साथ पैदा होते हैं परंतु प्रत्येक भाषा विशेष प्रकार के सामाजिक-सांस्कृतिक और राजनैतिक संदर्भ में अर्जित की जाती है। प्रत्येक बच्चा यह सीखता है कि क्या कहना है, किसे कहना है, कहाँ कहना है। जैसा कि लेबॉव ने बताया है कि भाषाएँ स्वाभाविक रूप से परिवर्तनशील होती हैं और विभिन्न आयुवर्ग के द्वारा विभिन्न संदर्भों में विभिन्न तरीकों से उसका इस्तेमाल किया जाता है। अतः मानवीय भाषिक व्यवहार में परिवर्तनशीलता या विविधता यादृच्छिक रूप से नहीं होती बल्कि वह भाषा, संप्रेषण, विचार और ज्ञान की व्यवस्थाओं में संबंध जोड़ती है। अरोइन ने संकेत दिया है कि समाज के बाहर भाषा का न तो अस्तित्व है और न ही उसका विकास होता है। हमारी सांस्कृतिक विरासत और सामाजिक विकास की आवश्यकताओं के कारण ही भाषा का विकास होता है। परंतु हमें इसकी विपरीत स्थिति को भी अनदेखा नहीं करना चाहिए। चूँकि भाषा संप्रेषण का बहुत महत्वपूर्ण, सटीक और सार्वभौमिक साधन है। अतः मानव समाज भाषा के बिना विचारों का गठन, अभिव्यक्ति का संचय और प्रसारण नहीं कर सकता। यह जानना भी उतना ही महत्वपूर्ण है कि भाषाएँ शारीरिक और मानसिक रूप से समय एवं स्थान में लगभग बंधी हुई, वस्तुओं का ही विवेक नहीं करतीं। वास्तव में वे लगातार बदलती रहती हैं (वे व्यवहार की प्रवाहपूर्ण व्यवस्था है, जिसे मनुष्य ग्रहण करता है और स्वयं को तथा अपने आस-पास के संसार को स्पष्ट करने के लिए उसमें परिवर्तन करता है। प्रायः भाषा को एक वस्तु के रूप में देखा जाता है और व्यक्ति उसके बारे में एक रूढ़िबद्ध दृष्टिकोण अपना लेते हैं। हमें भाषा के इन दोनों पक्षों के प्रति जागरूक रहने की आवश्यकता है।



## 1.6 भाषा और अस्मिता

कोई भी व्यक्ति समाज के जिस समूह के साथ अपनी पहचान बनाना चाहता है, वह उसी समूह के अनुरूप व्यवहार करता है। इस प्रक्रिया में उसकी ऐसी संप्रेषण क्षमता विकसित होती है जिसका प्रयोग वह तरह-तरह के औपचारिक संदर्भों में करता है। कई बार इन अस्मिताओं का आपस में संघर्ष भी होता है। अल्पसंख्यकों के संदर्भ में अस्मिता विशेष रूप से महत्वपूर्ण है। राष्ट्रीय और सार्वभौमिक शांति व सौहार्द की दृष्टि से यह बहुत जरूरी है कि हम अल्पसंख्यक भाषाओं व संस्कृतियों के प्रति संवेदनशील हों।

यदि भाषा के माध्यम से कुछ मौजूदा अस्मिताओं की पहचान स्पष्ट हो पाती है तो हम यह कह सकते हैं कि भाषाएँ अस्मिता का प्रतीक और स्मृतियों व प्रतीकों का भंडार तथा उन्हें बनाए रखने का साधन मात्र नहीं हैं। वे ऐसा उद्गम स्रोत हैं जहाँ से निकलकर हम अथाह संभावनाओं की तलाश कर सकते हैं।

## 1.7 भाषा एवं सत्ता

इस तथ्य के बावजूद कि सभी भाषाएँ अमूर्त व्यवस्थाओं या उप व्यवस्थाओं के रूप में समान हैं- इतिहास, अर्थशास्त्र, समाजशास्त्र जिस जटिल तरीके से भाषा के साथ अंतःक्रिया करते हैं- उससे कुछ भाषाएँ अन्य की तुलना में अधिक सम्मानजनक बन जाती हैं तथा सामाजिक- राजनैतिक शक्तियों के साथ जुड़ जाती हैं। समाज का एक विशिष्ट वर्ग प्रायः जिस भाषा का प्रयोग करता है वही भाषा समाज में वर्चस्व प्राप्त कर लेती है और मानक भाषा बन जाती है। सभी व्याकरण, शब्दकोश तथा विभिन्न प्रकार की संदर्भ-सामग्री इस 'मानक भाषा' को ही स्वभावतः संबोधित करेगी। भाषाविज्ञान की दृष्टि से मानक भाषा, शुद्ध भाषा, बोली, प्रकार आदि में कोई अंतर नहीं है। एक ऐसी बोली को भाषा के रूप में व्याख्यायित किया जाता है जिसकी अपनी कुछ विशेषताएँ हैं। वास्तव में सामाजिक, राजनैतिक एवं अर्थशास्त्रीय संदर्भों के आधार पर व्यक्ति यह निश्चित करते हैं कि कौन-सी भाषाएँ शिक्षा, प्रशासन, न्यायिक मामलों, संचार आदि में प्रयुक्त की जाएँगी। सैद्धांतिक तौर पर भाषा में कुछ भी किसी भी तरीके से किया जा सकता है। चाहे वह मानविकी, समाज विज्ञान और विज्ञान के विषयों में उच्च स्तरीय शोध क्यों न हो। अतः यह स्वभाविक है कि सुविधाहीन और वंचित वर्ग की भाषा को ऐसी अभिव्यक्ति कभी भी नहीं मिल पाएगी यदि हम उसे किसी प्रकार का ढाँचागत आधार प्रदान न करें जिससे विभिन्न संदर्भों में उसका इस्तेमाल हो सकें।

## 1.8 भाषा और जेंडर

जेंडर का सवाल संसार की आधी नहीं समूची मानवीय आबादी का सवाल है। एक समय के भीतर भाषा की संरचना में बड़ी संख्या में ऐसे तत्व हैं जो जेंडर स्टीरियोटाइप (रुढ़िबद्धता) की तरह इस्तेमाल हो रहे हैं। केवल बड़े-बड़े विद्वान ही नहीं बल्कि कुछ प्रसिद्ध भाषावैज्ञानिकों ने भी 'औरतों की बोली' को 'महत्वहीन' और 'सजावट वस्तु' के अतिरिक्त और कुछ नहीं माना है। परंतु शाब्दिक और वाक्यपरक अभिव्यक्तियों के महत्वपूर्ण हिस्से लैंगिक पूर्वाग्रह को दर्शाते हैं। स्त्री-पुरुष की बातचीत के विस्तृत विश्लेषण से भी यह पता चला कि पुरुष अपने विचार मनवाने के लिए विभिन्न संप्रेषणात्मक युक्तियों का किस प्रकार इस्तेमाल करता है।

'पुरुषोचित' और 'स्त्रियोचित' की पूर्वनिर्धारित संकल्पनाएँ व्यवहार में लगातार पुनः परिभाषित होती रहती हैं और शायद कई बार अनजाने ही हमारी पाठ्यपुस्तकों के माध्यम से प्रसारित होती रहती हैं। वास्तव में दिनों-दिन स्पष्ट होती जा रही है। इस तरह के सोच के निर्माण में भाषा और अन्य दृश्य-सामग्री केंद्रीय भूमिका निभाती है। हमें भाषा के इस पक्ष पर तुरंत ध्यान देने की आवश्यकता है। पाठ्यपुस्तक के लेखकों एवं शिक्षकों को समझना जरूरी है कि सामान्यतः हमारे समाज और संस्कृति द्वारा निर्मित कुछ निष्क्रिय और अलग तरह के काम जो महिलाओं के साथ जोड़े गए हैं इन्हें जल्द से जल्द खत्म किया जाना बहुत जरूरी है। स्त्रियों की आवाज को अपनी दमक, ऐश्वर्य, विविधता के साथ हमारी पाठ्यपुस्तकों एवं शिक्षण पद्धतियों में महत्वपूर्ण स्थान देने की आवश्यकता है।



## 1.9 भाषा-शिक्षण के उद्देश्य

चूँकि स्कूल आने से पहले अधिकांश बच्चों के मानस में भाषायी व्यवस्था पूरी तरह विकसित हो चुकी होती है, अतः स्कूल की पाठ्यचर्या में भाषाएँ पढ़ाने के विशेष उद्देश्य होने चाहिए। भाषा-शिक्षण का एक उद्देश्य समझकर पढ़ना और लिखना सिखाना और विद्यार्थियों में अपने आप सीखने की क्षमता पैदा करना है। हम बच्चों को अधिभाषा के रूप में भाषा की भूमिका का अहसास कराएँ। हमारा प्रयास यह होना चाहिए कि हम बच्चों में बहुभाषिकता की मात्रा को और पहले से मौजूद जानकारी को बनाए रखें तथा उसका संवर्धन करें। हम बच्चों में विनम्रता की युक्तियों और आग्रह-शक्ति भी विकसित करना चाहेंगे ताकि वे सहिष्णुता और गरिमा के साथ अभिव्यक्ति कर सकें।

यद्यपि शिक्षण पद्धतियाँ और शिक्षण सामग्री कई प्रकार की हो सकती है, फिर भी शिक्षा की दुनिया में भाषा की कक्षाएँ प्रायः रोचक और चुनौतीभरी नहीं होती हैं। भाषा की कक्षाओं पर हमारे यहाँ अभी भी व्यवहारवाद और उपदेशात्मकता छाया हुई है। बच्चे जो भाषाएँ पहले से जानते हैं उन भाषाओं में भी बच्चों की कोई विशेष प्रगति देखने में नहीं आती। जहाँ तक अंग्रेजी जैसी द्वितीय भाषाओं का प्रश्न है, 6 से 10 वर्षों की पढ़ाई के बावजूद भी बच्चे इन भाषाओं में बुनियादी निपुणता नहीं हासिल कर पाते। संस्कृत जैसी शास्त्रीय भाषाओं और विदेशी भाषाओं का शिक्षण तो कुछ चुने हुए पाठों और संज्ञा, क्रिया आदि की अभिरचनाओं को याद करने तक सीमित रह जाता है। अनेक अध्ययन और शोध इस यथार्थ की पुष्टि कर सकते हैं। यह आवश्यक है कि हम अपने विशिष्ट संदर्भों को समझें, प्रासंगिक उद्देश्यों को पहचानें और उसके अनुरूप उचित प्रविधियों, सामग्री तथा शिक्षण-प्रशिक्षण के कार्यक्रम, मापदंड/माँड्यूल विकसित करें। एक लंबे समय से हम भाषा-शिक्षण के उद्देश्यों की बात सुनने, बोलने, लिखने व पढ़ने के कौशलों के संदर्भ में करते रहे हैं (हाल के वर्षों में बड़े-बड़े संप्रेषण कौशलों, एक्सेंट न्यूट्रलाइजेशन और स्तर प्रशिक्षण की बात करने लगे हैं, पर वह भी काफ़ी सोचनीय ढंग से।) केवल पृथक कौशलों पर ही बल देने के काफ़ी बुरे परिणाम हुए हैं। अतः हमारा निवेदन है कि भाषायी निपुणता को सम्यक् और समग्र परिप्रेक्ष्य में देखा जाना चाहिए। आखिरकार बोलने के साथ-साथ हम सुनते भी हैं और जब हम लिखते हैं तो हम कई अर्थों में पढ़ते भी हैं। इसके अतिरिक्त ऐसी स्थितियाँ भी होती हैं जब हम इन चारों कौशलों और अन्य अनेक संज्ञानात्मक क्षमताओं का एक साथ प्रयोग करते हैं, जैसे कुछ लोगों द्वारा किसी नाटक को इकट्ठा पढ़ना और उसके मंचन के लिए कुछ बिंदु लिखना।

कमिन्स और स्वेन ने बुनियादी अंतर्व्यवस्थित संप्रेषण के कौशलों और उन्नत संज्ञानात्मक भाषायी निपुणता के बीच आधारभूत अंतर की बात की है। भाषायी क्षमता का संबंध उन बुनियादी कौशलों से है जिनकी आवश्यकता उन स्थितियों में होती है तथा जिनमें ऊँचे स्तर के संज्ञान (बौद्धिकता) की जरूरत नहीं होती। 'यहाँ' और 'अभी' की भाषा तथा हमउम्र लोगों के साथ संवाद के लिए इन्हीं बुनियादी कौशलों की आवश्यकता होती है। अलग-अलग भाषाओं में इन कौशलों से जुड़ी क्षमता का अर्जन लगभग नए सिरे से होता है, हालाँकि भारत जैसे बहुभाषी समाजों में लोग भाषा-अर्जन की सहज प्रक्रिया में ही ये क्षमताएँ सीख जाते हैं। संज्ञानात्मक निपुणता से जुड़ी क्षमताओं की जरूरत उन स्थितियों में होती है जिनका संदर्भ समृद्ध नहीं होता तथा जो ऊँचे संज्ञान-स्तर की माँग करती है। ये क्षमताएँ प्रायः शिक्षक के मार्गदर्शन में अर्जित की जाती हैं। उदाहरण के लिए, जब माध्यमिक या उच्चतर माध्यमिक स्तर के विद्यार्थी को किसी ऐसे विषय पर निबंध लिखने को कहा जाए जिससे वह परिचित नहीं है या उसे किसी अखबार के संपादकीय को समीक्षा करने की दृष्टि से पढ़ने को कहा जाए तो उसे संज्ञानात्मक निपुणता से जुड़ी क्षमताओं की सहायता लेनी पड़ेगी। इन क्षमताओं का संबंध किसी भाषा विशेष से नहीं होता। हमारा प्रयास यह होना चाहिए कि स्कूली शिक्षा पूरी होने तक विद्यार्थी कम से कम तीन भाषाओं के संदर्भ में यह संज्ञानात्मक निपुणता हासिल कर लें। इसके अतिरिक्त एकाध अन्य भाषाओं में बुनियादी कौशल तो हासिल होने ही चाहिए।

उपर्युक्त बातों को ध्यान में रखते हुए भाषा-शिक्षण के निम्नलिखित उद्देश्य हो सकते हैं:



## ● सुने हुए को समझने की क्षमता

विद्यार्थी वक्ता की बात को समझने के लिए उससे मिलने वाले विभिन्न गैर-भाषायी संकेतों की मदद ले पाएँ। कभी-कभी किसी वाक्य के अर्थ का संबंध उससे पहले बोली के साथ होता है और कभी-कभी कही गई बात के निहितार्थ को समझने के लिए हमें अनुमान लगाना होता है। बच्चों की भाषायी समझ बनाने के लिए भाषा-विशेष की ध्वनियों से वाकिफ़ होना ही काफ़ी नहीं है। वास्तविक जीवन-संदर्भ में कही गई बात के बीच का अंतराल व चुप्पी भी सार्थक होती है, बच्चों में यह समझ बनाना बहुत जरूरी है। दूसरी ओर परिवेश में मौजूद तरह-तरह की आवाजों के प्रति (जैसे, पंखे, बस, तबला, सितार) संवेदनशीलता भी भाषायी समझ का एक आयाम है।

## ● अक्षरों को जोड़कर पढ़ने की बजाय समझकर पढ़ने की क्षमता

सुनने के कौशल की तरह पढ़ने के कौशल का विकास भी एकरेखीय ढंग से न हो और बच्चे आगे-पीछे के संदर्भ में पढ़कर अर्थग्रहण कर पाएँ। साथ ही वे वाक्य-विन्यास, अर्थ और अक्षरों की आकृति व ध्वनि संबंधी विभिन्न प्रकार के संकेतों की सहायता लें। विद्यार्थी में पाठ को समीक्षात्मक दृष्टि से पढ़ने और पढ़ने की प्रक्रिया में सवाल उठाने का आत्मविश्वास पैदा होना भी बहुत जरूरी है। विद्यार्थी की पढ़ने की क्षमता को आँकने का सबसे महत्वपूर्ण मापदंड यह है कि वे अपनी संज्ञानात्मक क्षमता से एक स्तर ऊपर की किसी अपठित रचना को समीक्षात्मक दृष्टि से सराह सकें।

## ● सहज अभिव्यक्ति

विद्यार्थी विविध स्थितियों में अपने संप्रेषण कौशलों का इस्तेमाल कर सकें। उनके पास विभिन्न भाषा-शैलियों का भंडार हो जिनमें से वे आवश्यकता के अनुसार उपयुक्त शैली चुन सकें। वह किसी बहस में तार्किक, विश्लेषणात्मक और सृजनात्मक ढंग से हिस्सा ले सकें। इन सारे क्रियाकलापों में स्वाभाविक तौर पर चारों कौशलों का इस्तेमाल एक साथ होगा।

## ● सुसंगत लेखन

लिखना यात्रिक कौशल नहीं है। लिखने के लिए व्याकरण, शब्द-भंडार, विषयवस्तु, विराम-चिह्न के प्रयोग पर अधिकार तो होना ही चाहिए, इसके साथ विद्यार्थियों में अपने विचारों को सुसंगत और सरल ढंग से अभिव्यक्ति करने का कौशल एवं आत्मविश्वास विकसित हो। विद्यार्थियों को इस बात के लिए प्रोत्साहित और प्रशिक्षित किया जाना चाहिए कि वे स्वयं अपने विषय चुनें, विचारों को व्यवस्थित करें और संभावित पाठक को ध्यान में रखते हुए पाठकबोध के साथ लिखें। यह तभी संभव होगा जब हम उनके लेखन को तैयार और अंतिम उत्पाद/कृति के रूप में न देखकर, उसे एक व्यवस्थित प्रक्रिया का परिणाम मानें। विद्यार्थियों में यह क्षमता हो कि वे विभिन्न प्रकार की औपचारिक-अनौपचारिक स्थितियों में तरह-तरह के उद्देश्यों की माँग के अनुरूप लिख सकें।

## ● विभिन्न प्रयुक्तियों पर अधिकार

भाषा का प्रयोग कभी भी एकरूप ढंग से नहीं होता। उसकी असंख्य रंगतें, विविधताएँ और छटाएँ होती हैं जो अलग-अलग विषय-क्षेत्रों और स्थितियों में उभरकर सामने आती हैं। 'प्रयुक्ति' के नाम से जानी जाने वाली ये विविधताएँ विद्यार्थियों के भाषा-भंडार का हिस्सा होनी चाहिए। स्कूली विषयों की प्रयुक्ति के अलावा संगीत, खेल, फिल्म, बागवानी, राजगीरी, पाक-कला जैसे क्षेत्रों की प्रयुक्तियों से भी विद्यार्थी परिचित हों और उनका प्रयोग कर पाएँ।





## ● भाषा का वैज्ञानिक अध्ययन

भाषा की कक्षा में अपनाई जाने वाली शिक्षण पद्धतियाँ और किए जाने वाले कार्य ऐसे हों कि विद्यार्थी उनके जरिये अन्वेषण की वैज्ञानिक प्रक्रिया से गुजरें। इसके अंतर्गत वे भाषा का डेटा इकट्ठा करें, उनका अवलोकन करके अंतर और समानताओं के आधार पर वर्गीकरण करें और नियमों के निष्कर्ष पर पहुँचें। ऐसी प्रक्रिया बच्चों के संज्ञानात्मक बौद्धिक विकास में महत्वपूर्ण भूमिका निभाती है। विद्यार्थियों में व्याकरण की समझ विकसित करने के लिए यह तरीका व्याकरण के मानक नियम पढ़ाने की तुलना में कहीं बेहतर है। भारतीय संदर्भ में कक्षाओं की बहुभाषी प्रकृति को देखते हुए यह पद्धति विशेष रूप से प्रभावशाली है।

## ● सृजनात्मकता

कल्पनाशीलता और सृजनात्मकता विकसित करने के लिए विद्यार्थियों को भाषा की कक्षा में पर्याप्त अवसर और स्पेस/छूट दी जानी चाहिए। कक्षा का सकारात्मक माहौल और शिक्षक व विद्यार्थी का संबंध विद्यार्थियों में आत्मविश्वास पैदा कर सकता है जिससे वे बेझिझक होकर पाठ पढ़ाए जाने की प्रक्रिया में और अन्य गतिविधियों में अपनी कल्पनाशीलता का इस्तेमाल कर सकें।

## ● संवेदनशीलता

विद्यार्थियों को हमारी समृद्ध संस्कृति, विरासत और समसामयिक जीवन के पक्षों से परिचित कराने के लिए भाषा की कक्षाओं में पर्याप्त संदर्भ-बिंदु मौजूद होते हैं। पाठों के माध्यम से भाषा की कक्षा में विद्यार्थियों को परिवेश, लोगों और देश के प्रति संवेदनशील बनाने के लिए भरपूर प्रयास किए जाने चाहिए।

## 1.10 कुछ शिक्षाशास्त्रीय सुझाव

हाल के वर्षों में भाषा-अर्जन पर हुए शोधों के प्रभाव से विद्यार्थी भाषा अधिगम की प्रक्रिया के केंद्र में आ गया है। अब यह माना जाने लगा है कि यदि विद्यार्थी को समृद्ध व पर्याप्त भाषायी अनुभव तथा तनावमुक्त माहौल मिलता है तो वह सहज रूप से भाषा का व्याकरण रच सकता है। जैसाकि क्राशेन ने कहा है कि उपलब्ध भाषा को विद्यार्थी तभी आत्मसात कर सकता है जब आसपास के लोगों/अध्यापक का रवैया सकारात्मक हो और उसके खुद के अंदर सीखने की प्रेरणा हो। इसके भी प्रमाण मौजूद हैं कि अपने लिखे हुए को संपादित करने की आज्ञादी और समय मिलने पर बच्चे उपलब्ध भाषा-अनुभव में भी सुधार करने की कोशिश करते हैं। जब से संज्ञानात्मक प्रगतिके अपेक्षाकृत क्रमबद्ध चरणों पर बल दिया जाने लगा है, त्रुटियों के प्रति शिक्षकों के रवैये में अंतर आया है वे अब त्रुटियों को जड़ से उखाड़ फेंकने लायक विकृति के रूप में नहीं, बल्कि भाषा सीखने की प्रक्रिया के सहज व अनिवार्य चरण के रूप में देखते हैं। सीखने-सिखाने की प्रक्रिया के केंद्र में विद्यार्थियों को रखने का एक परिणाम यह भी हुआ है कि उनकी मातृभाषाओं को सम्मान दिया जाने लगा है और उन्हें सशक्त संज्ञानात्मक संसाधन के रूप में देखा जाने लगा है। सरकारी और निजी स्कूलों में मातृभाषाओं के प्रयोग से जुड़ी हेय दृष्टि की निंदा की जानी चाहिए और कक्षा में मातृभाषाओं के रचनात्मक प्रयोग को प्रोत्साहित किया जाना चाहिए।

## हिंदी-पाठ्यक्रम

भाषा एक औजार है जिसका इस्तेमाल हम जिंदगी को समझने के लिए, उससे जुड़ने के लिए और जीवन-जगत को प्रस्तुत करने के लिए करते हैं। यह सब करने के लिए जाँच-पड़ताल, तर्क, संप्रेषण जैसे कौशलों की जरूरत होती है। इसके साथ-साथ भाषा यानी बहुभाषिकता हमारी पहचान भी है और हमारी सभ्यता व संस्कृति का अभिन्न अंग भी। इसलिए यह आवश्यक है कि हिंदी सीखने-सिखाने का दायरा इतना व्यापक हो कि भाषा के इन उपयोगों से उसका नाता न टूटे। इससे आगे बढ़ें तो हम पाएँगे कि भाषा हमें अपने परिवेश में कई रूपों में बिखरी मिलती है, जैसे- अखबार, साइनबोर्ड, पोस्टर, विज्ञापन आदि। इसके अतिरिक्त भाषा अपने साहित्यिक रूप



में भी उपलब्ध होती है। ऐसे में हमारा प्रयास यह होना चाहिए कि स्कूल के दस-बारह वर्षों के दौरान विद्यार्थियों में हिंदी के व्यापक और विविध स्वरूप की गहरी समझ विकसित हो जाए।

### ज्ञान का विस्तार

स्कूली शिक्षा पूरी होने तक विद्यार्थी का भाषा-बोध और साहित्य-बोध इस सीमा तक विकसित हो जाए कि उसमें किसी रचना के बारे में स्वतंत्रा राय बनाने का आत्मविश्वास पैदा हो सके वह पाठ्यपुस्तकों की परिधि के बाहर भी किसी रचना से जुड़कर उस पर भावनात्मक और बौद्धिक प्रतिक्रिया कर सके वह तरह-तरह के औपचारिक व अनौपचारिक विषयक्षेत्रों में प्रयुक्त होने वाली भाषा के रूपों से परिचित हो और उसका प्रयोग कर सकें वह संदर्भ और आवश्यकता के अनुसार विभिन्न किस्म की शैलियों से परिचित हो सके। विद्यार्थियों को भाषा की ताकत का अहसास हो। वह इस बात को समझे कि भाषा के माध्यम से हम केवल संप्रेषण ही नहीं करते, बल्कि जो हम सोचते और महसूस करते हैं उसे सुंदर, प्रभावशाली व्यंजनात्मक और पैसे ढंग से अभिव्यक्त करने के लिए भाषा एक सशक्त साधन है। विद्यार्थी हिंदी की बारीकी और सुंदरता को परख सके उसे यह ज्ञान हो कि हिंदी के माध्यम से यथार्थ और काल्पनिक दुनिया की रचना की जा सकती है। भाषा के माध्यम से विद्यार्थी का ज्ञानक्षेत्र इतना विस्तृत हो कि वह राष्ट्रीय समाचारपत्रों और पत्रिकाओं की परिधि में आने वाले व्यक्ति, परिवेश और समाज से जुड़े मुद्दों की सामान्य जानकारी रख सके।

### कौशलों का विस्तार

दस-बारह वर्ष तक स्कूल में हिंदी पढ़ने के बाद हिंदी पर विद्यार्थियों की पकड़ इतनी मजबूत हो जाए कि वे कुशल पाठक, लेखक, श्रोता व विश्लेषक हों। वे अखबारों के संपादकीय पृष्ठ और पत्रिकाएँ बिना कठिनाई के पढ़ और समझ पाएँ और उन पर टिप्पणी कर पाएँ। वे आवश्यकता और उद्देश्यों के अनुसार किसी किताब, लेख आदि में से उपयुक्त सामग्री इकट्ठा करके उसका सटीक उपयोग कर सकें। वे रेडियो-टेलीविजन पर हिंदी में प्रसारित होने वाली औपचारिक परिचर्चाओं व भाषणों को सुनकर समझ सकें।

विद्यार्थियों में बोलने का कौशल इस सीमा तक विकसित हो चुका हो कि औपचारिक चर्चाओं व वाद-विवाद में बेझिझक होकर बोल सकें। वे अपने विचारों और भावनाओं को स्पष्ट, व्यवस्थित और असरदार ढंग से अभिव्यक्त कर सकें। भाषा पर उनका इतना अधिकार हो चुका हो कि वे जीवन की विविध स्थितियों से आत्मविश्वासपूर्वक गुजर सकें। विभिन्न प्रकार के औपचारिक व अनौपचारिक संदर्भों के अनुसार उचित शैली चुन सकें। वे सहज, कल्पनाशील, प्रभावशाली और व्यवस्थित ढंग से किस्म-किस्म का लेखन कर सकें। भाषा को जानदार बनाने के लिए उर्दू के और आंचलिक शब्दों का इस्तेमाल करने की समझ उनमें हो। पढ़ना, सुनना, लिखना, बोलना-इन चारों प्रक्रियाओं में विद्यार्थी अपने पूर्वज्ञान की सहायता से अर्थ की रचना कर पाएँ और कही गई बात के निहितार्थ को भी पकड़ पाएँ।

- कही या लिखी गई बात को आँख मूँदकर स्वीकार करने की बजाय विद्यार्थी उसे आलोचनात्मक दृष्टि से परखें और उस पर प्रासंगिक सवाल उठाएँ।
- विद्यार्थियों के तार्किक कौशल इतने विकसित हों कि वे दो बातों के बीच के अंतर्संबंध को समझ सकें तथा अपने द्वारा कही या लिखी गई बात की तर्क से पुष्टि कर सकें।
- विद्यार्थियों में अवलोकन और विश्लेषण के कौशलों का भरपूर विकास हो चुका हो। वे चीजों, स्थितियों, लोगों, परिवेश और मनोभावों का बारीकी और विश्लेषणात्मक वर्णन कर सकें। इन कौशलों की मदद से विद्यार्थी भाषा की नियमबद्धता को भी पहचान पाएँ। साथ ही साथ परिवेश और समाज के विभिन्न पहलुओं का वैज्ञानिक विश्लेषण कर पाएँ।
- भाषा, कला और सृजनात्मकता तथा कल्पनाशीलता का गहरा संबंध है। विद्यार्थियों का दस-बारह वर्षों तक हिंदी के साथ संपर्क उनमें कलाबोध विकसित करे और वे आसपास बिखरी कला को उसके विविध रूपों में सराह सकें। उनके काम में कलात्मकता और सृजनशीलता झलके।



## रुझान और रवैया

स्कूली शिक्षा पूरी करने तक विद्यार्थी हिंदी से गहरी आत्मीयता महसूस करने लगे। साथ ही बाकी भारतीय भाषाओं की विविधता को स्वीकार करे और उनके समृद्ध साहित्य को सराहना की दृष्टि से देखें। भाषा विद्यार्थी के निर्भय व्यक्तित्व की रचना कर सके। बोलियों के प्रति विद्यार्थियों की सोच, संकीर्ण न हो और वे अच्छी तरह समझें कि भाषा वैज्ञानिक दृष्टि से भाषा और बोली में कोई अंतर नहीं है। यह अंतर केवल सामाजिक और राजनैतिक है। भारत की समृद्ध संस्कृतियों और रिवाजों के प्रति उनका रवैया पूर्वाग्रहों से मुक्त और सराहनापूर्ण हो। अल्पसंख्यक जातियों व समाजों के प्रति वे संवेदनशील हों और लैंगिक समता उनकी सोच एवं व्यवहार दोनों में झलकती हो। क्षमताओं का कोई एक मापदंड नहीं होता और लोगों में क्षमताओं के विविध रूप हो सकते हैं- इस बात को विद्यार्थी अच्छी तरह समझें, स्वीकारें और सराहें। विद्यार्थी भाषा और सत्ता के अंतर्संबंध से परिचित हों ताकि वे स्वयं भाषा को (जाति और लिंग के संदर्भ में) प्रभुत्व और शोषण के हथियार के रूप में इस्तेमाल न करें, न ही उसका ऐसा इस्तेमाल होने दें।

## पाठ्यपुस्तकें

उपर्युक्त बातों के संदर्भ में बहुत जरूरी है कि भाषा-शिक्षण की पद्धतियों और पाठ्यपुस्तकों व शिक्षण सामग्री में इन विचारों की झलक और समझ मिले। यद्यपि पाठ्यपुस्तकें भाषा-शिक्षण का एकमात्र स्रोत नहीं होनी चाहिए फिर भी पाठ्यपुस्तकें हमारी स्कूली शिक्षा में सबसे ज्यादा महत्वपूर्ण भूमिका निभाती हैं। अतः उनमें संकलित रचनाएँ व अभ्यास ऐसे हों कि अपेक्षित ज्ञान, समझ, दृष्टिकोणों, कौशलों और रवैयों को बनाने, सँवारने में उनकी भागीदारी हो। ये पुस्तकें साधन के रूप में भाषा की ताकत को निरंतर, कक्षा-दर-कक्षा पैना करती रहें ताकि विद्यार्थी विविध परिस्थितियों एवं आवश्यकता के अनुसार उसका उपयोग करने में सक्षम हों।

- इन पुस्तकों में कथात्मक और जानकारीपरक रचनाओं की विविधता हो जिससे विद्यार्थियों को विभिन्न प्रकार के साहित्य का परिचय मिल सके और वे ऐसी अन्य रचनाओं को समझ व सराह सकें। साथ ही साथ वे रचनाओं को आत्मसात करते हुए उन पर भावनात्मक और बौद्धिक प्रतिक्रिया कर सकें।
- किसी भी विषय का अस्तित्व शून्य में विकसित नहीं होता है, इसलिए यह जरूरी है कि विद्यार्थी कोई रचना पढ़ते समय अन्य विषयों की अवधारणाओं से उसे जोड़ पाएँ और उन दोनों का अंतर्संबंध देख सकें। पाठ्यपुस्तकों में कहानी, कविता, संस्मरण आदि जैसी प्रचलित विधाएँ तो हों ही, इसके अतिरिक्त अखबारी लेखन, पैरोडी, विज्ञापन, नारे, कार्टून, संदेश, भाषण, भेंटवार्ता, घोषणाएँ, रहस्य-रोमांस जैसी सामग्री का भी समावेश हो। चुनी गई रचनाओं में कम से कम बीस प्रतिशत रचनाएँ अन्य भारतीय भाषाओं और विदेशी भाषाओं की हों।
- इन पुस्तकों में विषयवस्तु का फलक विस्तृत हो जिसमें समाज के सरोकार झलकते हों, जैसे- पर्यावरण/परिवेश, संवैधानिक दायित्व, शांति, संस्कृति (सिनेमा, मंचन कलाएँ, खान-पान, पहनावा, त्योहार आदि), विज्ञान, इतिहास आदि।
- इन विषयवस्तुओं के जरिये भाषा के विभिन्न प्रयोगों की बानगी और भाषा की आंचलिक और साहित्यिक छटा के वैविध्य का परिचय भी हो ताकि विद्यार्थी उसकी बारीकी, सौंदर्य और आंचलिकता की सराहना कर सकें और उसकी समालोचना कर सकें।
- रचनाओं के माध्यम से विद्यार्थी विभिन्न विषयों से जुड़े भाषा-प्रयोग और शैलियों से परिचित हो सकें।
- पाठ्यपुस्तकों में रचनाएँ एक वातावरण निर्मित करती हैं और अभ्यास प्रश्न उनको परखने, उनसे गहराई से जुड़ने और व्यापक अनुभव-स्तर से तादात्म्य का मौका देते हैं। परखना, विश्लेषण, आलोचना आदि के लिए जिन कौशलों की आवश्यकता होती है इन अभ्यासों के माध्यम से उनके अवसर मिलते हैं। भाषायी और सांस्कृतिक विविधता को स्वीकार करने और सराहने की संवेदनशीलता अभ्यास-प्रश्नों के जरिये विकसित की जा सकती है। इसके अतिरिक्त पुस्तकों में विविध विषयों के संदर्भ में परिवेश और समाज के अवलोकन और बारीक विवरण से संबंधित प्रश्न भी होने चाहिए। चूँकि कक्षा में कक्षा से बाहर की भाषा का विश्लेषण और भाषा के विकास का सशक्त साधन है, इसलिए ऐसे प्रश्न भाषा के संदर्भ में भी दिए जा सकते हैं ताकि



विद्यार्थी भाषा की संरचना की पड़ताल और विश्लेषण कर पाएँ। यह विश्लेषण कक्षा के बहुभाषी संदर्भ में भी किया जाना चाहिए। इसके अतिरिक्त प्रश्नों के ज़रिए, किसी रचना, विषय आदि को अनेक पहलुओं से देखने की सम्यक् दृष्टि विकसित की जाए।

- कक्षा 9 और 10 मातृभाषा, द्वितीय भाषा और कक्षा 11 और 12 (आधार) में व्यावहारिक व्याकरण की एक संक्षिप्त पुस्तक तैयार की जा सकती है जो आदेशात्मक और वर्णनात्मक न होकर विश्लेषणात्मक हो। यह पुस्तक अध्यापकों के लिए होगी।

## व्याकरण

बच्चों की भाषा में इस बात के पर्याप्त संकेत मिलते हैं कि वे अपनी भाषा का व्याकरण अच्छी तरह जानते हैं। पर व्याकरण की सचेत समझ बनाने के लिए यह आवश्यक है कि बच्चों को उसके विभिन्न पक्षों की पहचान विविध पाठों के संदर्भ में और आसपास के परिवेश से जोड़कर कराई जाए। व्याकरण की अवधारणाओं की अमूर्त परिभाषाएँ याद करने से ज्यादा महत्वपूर्ण है उन्हें वास्तविक संदर्भों में समझना है। इस उद्देश्य की प्राप्ति के लिए पाठ्यपुस्तकों के अभ्यास प्रश्न और कक्षा में शिक्षक द्वारा इस्तेमाल की जाने वाली व्यावहारिक गतिविधियाँ और युक्तियाँ महत्वपूर्ण भूमिका निभा सकती हैं। व्याकरण के पक्षों की समझ चरणबद्ध क्रम में विकसित की जा सकती है : **पहला चरण** पहचान का है और **दूसरा चरण** प्रयोग का है। **उदाहरण-1** कक्षा III में नाम वाले शब्दों के बारे में बच्चों को पाठ और कक्षा के परिवेश के संदर्भ में (जैसे, किताब, रोटी, मेज, पंखा, रसीद, रिबन, जूता, दीवार, छत आदि) बताया जा सकता है। कक्षा IV में बच्चे ऐसे शब्दों का वाक्य में प्रयोग कर सकते हैं या किसी बच्चे द्वारा बनाई गई कहानी। घटना आदि में नाम वाले शब्द ढूँढ़ सकते हैं। कक्षा V में नाम वाले शब्दों को संज्ञा का नाम दिया जा सकता है और कक्षा VI में बच्चों को संज्ञा के भेदों के बारे में बताया जा सकता है।

**उदाहरण-2** पाठ्यपुस्तक के अभ्यास-प्रश्नों में या कक्षा में शिक्षक द्वारा एक प्रकार के शब्दों की सूची दी जा सकती है जिसका अवलोकन करके बच्चे उनमें होने वाले बदलावों को पहचान सकते हैं- (एक) गेंद- (तीन) गेंदे - (एक) गिलास- (पाँच) गिलासों (एक) सड़क- (कई) सड़कें- (एक) भैंस - (कई) भैंसें। बच्चों द्वारा इन परिवर्तनों को पकड़ पाना भाषा के नियमबद्ध स्वरूप को समझ पाने की दिशा में पहला कदम है।

पाठ्यक्रम में कक्षानुसार व्याकरण के कुछ बिंदु दिए गए हैं। इन बिंदुओं को ध्यान में रखते हुए पाठ्यपुस्तक निर्माता और शिक्षक पाठ में सहज रूप से उभरकर आने वाले व्याकरण संबंधी और भाषा की बारीकी व सुंदरता संबंधी अन्य पक्षों को क्रमशः समझने और सराहने में छात्र-छात्राओं की सहायता करें। एक कक्षा में चर्चित बिंदुओं की चर्चा दूसरी कक्षाओं में भी जारी रह सकती है। ऊपर की पंक्तियों में चर्चित उदाहरणों के अलावा कई गतिविधियों और युक्तियों को भी प्रयोग में लाया जा सकता है, जैसे- क्लोज टेस्ट, शब्द-कड़ी, अंत्याक्षरी आदि।

## हिन्दी मातृभाषा (कक्षा IX-X)

नवीं कक्षा में दाखिल होने वाले विद्यार्थी की भाषा, शैली और विचार बोध का ऐसा आधार बन चुका होता है कि उसे उसके भाषिक दायरे के विस्तार और वैचारिक समृद्धि के लिए ज़रूरी संसाधन मुहैया कराए जाएँ। माध्यमिक स्तर तक आते-आते विद्यार्थी किशोर हो गया होता है और उसमें बोलने, पढ़ने, लिखने के साथ-साथ आलोचनात्मक दृष्टि विकसित होने लगती है। भाषा के सौंदर्यात्मक पक्ष, कथात्मकता/गीतात्मकता, अखबारी समझ, शब्द की दूसरी शक्तियों के बीच अंतर, राजनैतिक चेतना, सामाजिक चेतना का विकास, उसमें बच्चे की अपनी अस्मिता का संदर्भ और आवश्यकता के अनुसार उपयुक्त भाषा-प्रयोग, शब्दों के सुचिंतित इस्तेमाल, भाषा की नियमबद्ध प्रकृति आदि से विद्यार्थी परिचित हो जाता है। इतना ही नहीं वह विभिन्न विधाओं और अभिव्यक्ति की अनेक शैलियों से भी वाकिफ़ होता है। अब विद्यार्थी की पढ़ाई आस-पड़ोस, राज्य-देश की सीमा को लाँघते



हुए वैश्विक क्षितिज तक फैल जाती है। इन बच्चों की दुनिया में समाचार, खेल, फिल्म तथा अन्य कलाओं के साथ-साथ पत्र-पत्रिकाएँ और अलग-अलग तरह की किताबें भी प्रवेश पा चुकी होती हैं।

इस स्तर पर मातृभाषा हिंदी का अध्ययन साहित्यिक, सांस्कृतिक और व्यावहारिक भाषा के रूप में कुछ इस तरह से हो कि उच्चतर माध्यमिक स्तर तक पहुँचते-पहुँचते यह विद्यार्थियों की पहचान, आत्मविश्वास और विमर्श की भाषा बन सके। प्रयास यह भी होगा कि विद्यार्थी भाषा के लिखित प्रयोग के साथ-साथ सहज और स्वाभाविक मौखिक अभिव्यक्ति में भी सक्षम हो सके।

### इस पाठ्यक्रम के अध्ययन से -

- विद्यार्थी अगले स्तरों पर अपनी रुचि और आवश्यकता के अनुरूप हिंदी की पढ़ाई कर सकेंगे तथा हिंदी में बोलने और लिखने में सक्षम हो सकेंगे।
- अपनी भाषा दक्षता के चलते उच्चतर माध्यमिक स्तर पर विज्ञान, समाज विज्ञान और अन्य पाठ्यक्रमों के साथ सहज संबद्धता (अंतर्संबंध) स्थापित कर सकेंगे।
- दैनिक व्यवहार, आवेदन-पत्र लिखने, अलग-अलग किस्म के पत्र लिखने, तार (टेलिग्राम) लिखने, प्राथमिकी दर्ज कराने इत्यादि में सक्षम हो सकें।
- उच्चतर माध्यमिक स्तर पर पहुँचकर विभिन्न प्रयुक्तियों की भाषा के द्वारा उनमें वर्तमान अंतर्संबंध को समझ सकेंगे।
- हिंदी में दक्षता को वे अन्य भाषा-संरचनाओं की समझ विकसित करने के लिए इस्तेमाल कर सकेंगे, स्थानांतरित कर सकेंगे।

### कक्षा IX-X मातृभाषा के रूप में हिंदी शिक्षण के उद्देश्य :

- कक्षा आठ तक अर्जित भाषिक कौशलों (सुनना, बोलना, पढ़ना, लिखना और चिंतन) का उत्तरोत्तर विकास।
- सृजनात्मक साहित्य के आलोचनात्मक आस्वाद की क्षमता का विकास।
- स्वतंत्र और मौखिक रूप से अपने विचारों की अभिव्यक्ति का विकास।
- ज्ञान के विभिन्न अनुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति एवं क्षमता का बोध कराना।
- साहित्य की प्रभावकारी क्षमता का उपयोग करते हुए सभी प्रकार की विविधताओं (राष्ट्रीयताओं, धर्म, जेंडर, भाषा) के प्रति सकारात्मक और संवेदनशील रवैये का विकास।
- जाति, धर्म, लिंग, राष्ट्रीयताओं, क्षेत्र आदि से संबंधित पूर्वग्रहों के चलते बनी रूढ़ियों की भाषिक अभिव्यक्तियों के प्रति सजगता।
- विदेशी भाषाओं समेत गैर हिंदी भाषाओं की संस्कृति की विविधता से परिचय।
- व्यावहारिक और दैनिक जीवन में विविध किस्म की अभिव्यक्तियों की मौखिक व लिखित क्षमता का विकास।
- संचार माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से अवगत कराना और नए-नए तरीके से प्रयोग करने की क्षमता से परिचय।
- सघन विश्लेषण, स्वतंत्र अभिव्यक्ति और तर्कक्षमता का विकास।
- अमूर्तन की पूर्व अर्जित क्षमताओं का उत्तरोत्तर विकास।
- भाषा में मौजूद हिंसा की संरचनाओं की समझ का विकास।
- मतभेद, विरोध और टकराव की परिस्थितियों में भी भाषा के संवेदनशील और तर्कपूर्ण इस्तेमाल से शांतिपूर्ण संवाद की क्षमता का विकास।
- भाषा की समावेशी और बहुभाषिक प्रकृति के प्रति ऐतिहासिक नज़रिए का विकास।



- शारीरिक और अन्य सभी प्रकार की चुनौतियों का सामना कर रहे बच्चों में भाषिक क्षमताओं के विकास की उनकी अपनी विशिष्ट गति और प्रतिभा की पहचान।

## पाठ्य-सामग्री

इस स्तर पर विद्यार्थियों की रुचि, योग्यता तथा स्तरानुकूल भावी विकास की दृष्टि से पाठ्यसामग्री तैयार की जाएगी।

## कक्षा IX और X के लिए

1. काव्य और गद्य संग्रह भाग-1 और भाग-2  
(प्रमुख रचनाकारों द्वारा लिखे साहित्य की विविध विधाओं से संबंधित काव्य और गद्य के लगभग 15-18 पाठ होंगे।) प्रश्न-अभ्यासों के द्वारा पाठगत संदर्भयुक्त भाषिक-प्रयोगों की ओर ध्यान दिलाते हुए भाषा की नियमबद्ध प्रकृति से परिचित कराया जाएगा। इस पुस्तक के अंत में परिशिष्ट के रूप में भिन्न ज्ञानानुशासनों में प्रयुक्त शब्दावलियों की सूची होगी।
2. पूरक पाठ्यपुस्तक- विद्यार्थियों में पठन रुचि पैदा करने के लिए साहित्य की विविध विधाओं की रचनाओं का एक-एक संकलन (भाग 1-2) कक्षा IX और X के लिए तैयार किया जाएगा।
3. अध्यापकों को संबोधित पुस्तक-(इसमें विभिन्न विधाओं से संबंधित शिक्षण-युक्तियों का परिचय होगा।) इस पुस्तक में भाषा और व्याकरण से परिचित कराने की नई तकनीक पर भी चर्चा होगी। इसी पुस्तक में रचनात्मक और व्यावहारिक लेखन के अंतर्गत पुस्तक-समीक्षा, यात्रावृत्तान्त, साक्षात्कार आदि पर ऐसी सामग्री होगी जिसके सहारे अध्यापक कक्षा में इनका अभ्यास करा सकें। इसी पुस्तक में इलेक्ट्रॉनिक मीडिया संबंधी सामग्री के उपयोग से प्रभावशाली शिक्षण पर भी विचार होगा।  
(यह पुस्तक IX और X दोनों कक्षाओं के लिए संयुक्त रूप से तैयार की जाएगी)

## शिक्षण-युक्तियाँ

माध्यमिक कक्षाओं में अध्यापक की भूमिका उचित वातावरण के निर्माण में सहायक की होनी चाहिए। भाषा और साहित्य की पढ़ाई में इस बात पर ध्यान देने की जरूरत होगी कि-

- विद्यार्थी द्वारा की जा रही गलतियों को भाषा के विकास के अनिवार्य चरण के रूप में स्वीकार किया जाना चाहिए जिससे विद्यार्थी अबाध रूप से बिना झिझक लिखित और मौखिक अभिव्यक्ति करने में उत्साह का अनुभव करें। विद्यार्थियों पर शुद्धि का ऐसा दबाव नहीं होना चाहिए कि वे तनावग्रस्त माहौल में पड़ जाएँ। उन्हें भाषा के सहज, कारगर और रचनात्मक रूपों से इस तरह परिचित कराना उचित है कि वे स्वयं सहजरूप से भाषा का सृजन कर सकें।
- गलत से सही दिशा की ओर पहुँचने का प्रयास हो। विद्यार्थी स्वतंत्र और अबाध रूप से लिखित और मौखिक अभिव्यक्ति करें। अगर कहीं भूल होती है तो अध्यापक को अपनी अध्यापन शैली में परिवर्तन की आवश्यकता होगी।
- ऐसे शिक्षण-बिंदुओं की पहचान की जाए जिससे कक्षा में विद्यार्थी निरंतर सक्रिय भागीदारी करें और अध्यापक भी इस प्रक्रिया में उनका साथी बनें।
- हर भाषा का अपना एक नियम और व्याकरण होता है। भाषा की इस प्रकृति की पहचान कराने में परिवेशगत और पाठगत संदर्भों का ही प्रयोग करना चाहिए। यह पूरी प्रक्रिया ऐसी होनी चाहिए कि विद्यार्थी स्वयं को शोधकर्ता समझें तथा अध्यापक इसमें केवल निर्देशन करें।
- हिंदी में क्षेत्रीय प्रयोगों, अन्य भाषाओं के प्रयोगों के उदाहरण से यह बात स्पष्ट की जा सकती है कि भाषा अलगाव में नहीं बनती और उसका परिवेश अनिवार्य रूप से बहुभाषिक होता है।



- शारीरिक बाधाग्रस्त विद्यार्थियों के लिए उपयुक्त शिक्षण-सामग्री का इस्तेमाल किया जाए तथा किसी भी प्रकार से उन्हें अन्य विद्यार्थियों से कमतर या अलग न समझा जाए।
- कक्षा में अध्यापक को हर प्रकार की विभिन्नताओं (जेंडर, जाति, वर्ग, धर्म) के प्रति सकारात्मक और संवेदनशील वातावरण निर्मित करना चाहिए।
- परंपरा से चले आ रहे मुहावरों, कहावतों (जैसे, रानी रूठेगी तो अपना सुहाग लेगी) आदि के जरिए विभिन्न प्रकार के पूर्वाग्रहों की समझ पैदा करनी चाहिए और उनके प्रयोग के प्रति आलोचनात्मक दृष्टि विकसित करनी चाहिए।
- मध्यकालीन काव्य की भाषा के मर्म से विद्यार्थी का परिचय कराने के लिए जरूरी होगा कि किताबों में आए काव्यांशों की संगीतबद्ध प्रस्तुतियों के ऑडियो-वीडियो कैसेट तैयार किए जाएँ। अगर आसानी से कोई गायक/गायिका मिले तो कक्षा में मध्यकालीन साहित्य के अध्यापन शिक्षण में उससे मदद ली जानी चाहिए।
- वृत्तचित्रों और फीचर फिल्मों को शिक्षण-सामग्री के तौर पर इस्तेमाल करने की जरूरत है। इनके प्रदर्शन के क्रम में इन पर लगातार बातचीत के जरिये सिनेमा के माध्यम से भाषा के प्रयोग की विशिष्टता की पहचान कराई जा सकती है और हिंदी की अलग-अलग छटा दिखाई जा सकती है।
- कक्षा में सिर्फ एक पाठ्यपुस्तक की भौतिक उपस्थिति से बेहतर यह है शिक्षक के हाथ में तरह-तरह की पाठ्यसामग्री को विद्यार्थी देख सकें और शिक्षक उनका कक्षा में अलग-अलग मौकों पर इस्तेमाल कर सकें।
- भाषा लगातार ग्रहण करने की प्रक्रिया में बनती है, इसे प्रदर्शित करने का एक तरीका यह भी है कि शिक्षक खुद यह सिखा सकें कि वे भी शब्दकोश, साहित्यकोश, संदर्भग्रंथ की लगातार मदद ले रहे हैं। इससे विद्यार्थियों में इनके इस्तेमाल करने को लेकर तत्परता बढ़ेगी। अनुमान के आधार पर निकटतम अर्थ तक पहुँचकर संतुष्ट होने की जगह वे अधिकतम अर्थ की खोज करने का अर्थ समझ जाएंगे। इससे शब्दों की अलग-अलग रंगत का पता चलेगा वे शब्दों के बारीक अंतर के प्रति और सजग हो पाएँगे।

## व्याकरण बिंदु

विद्यार्थियों को मातृभाषा के संदर्भ में व्याकरण के विभिन्न पक्षों का परिचय कक्षा III से ही मिलने लगता है। हिंदी भाषा में इन पक्षों और हिंदी की अपनी भाषागत विशिष्टताओं की चर्चा पाठ्यपुस्तक और अन्य शिक्षण-सामग्री के समृद्ध संदर्भ में की जानी चाहिए। नीचे कक्षा VI से X के लिए कुछ व्याकरणिक बिंदु दिए गए हैं जिन्हें कक्षा या विभिन्न चरणों के क्रम में नहीं रखा गया है।

संरचना और अर्थ के स्तर पर भाषा की विशिष्टताओं की परिधि इन व्याकरणिक बिंदुओं से कहीं अधिक विस्तृत है। वे बिंदु इन विशिष्टताओं का संकेत भर हैं जिनकी चर्चा पाठ के सहज संदर्भ में और बच्चों के आसपास उपलब्ध भाषायी परिवेश को ध्यान में रखते हुए की जानी चाहिए।

## कक्षा VI से X तक के लिए कुछ व्याकरण बिंदु

- संज्ञा, सर्वनाम, विशेषण, क्रिया, क्रियाविशेषण
- लिंग, वचन, काल
- पदबंध में लिंग और वचन का विशेषण पर प्रभाव
- वाक्य में कर्ता और कर्म के लिंग और वचन का क्रिया पर प्रभाव
- परसर्ग, ने का क्रिया पर प्रभाव
- अकर्मक, सकर्मक, द्विकर्मक, प्रेरणार्थक
- सरल, संयुक्त, मिश्र वाक्य
- कर्तृवाच्य, कर्मवाच्य
- समुच्चयबोधक शब्द और अन्य अविकारी शब्द
- पर्यायवाची, विलोम, समास, अनेककार्थी, श्रुतिसमभिन्नार्थक शब्द, मुहावरे



## द्वितीय भाषा के रूप में हिंदी (कक्षा IX-X)

भारत एक बहुभाषी देश है जिसमें बहुत सी क्षेत्रीय भाषाएँ रची-बसी हैं। भाषिक और सांस्कृतिक दृष्टि से भिन्न होने के बावजूद भारतीय परंपरा में बहुत कुछ ऐसा है जो एक दूसरे को जोड़ता है। यही कारण है कि मातृभाषा के रूप में अलग भाषा को पढ़ने वाला विद्यार्थी जब दूसरी भाषा के रूप में हिंदी का चुनाव करता है तो उसके पास अभिव्यक्ति का एक दृढ़ आधार पहली भाषा के रूप में पहले से ही मौजूद होता है। इसीलिए छठी से आठवीं कक्षा में सीखी हुई हिंदी का विकास भी वह तेजी से करने लगता है। आठवीं कक्षा तक वह हिंदी भाषा में सुनने, पढ़ने, लिखने और कुछ-कुछ बोलने का अभ्यास कर चुका होता है। हिंदी की बाल पत्रिकाएँ और छिटपुट रचनाएँ पढ़ना भी अब उसे आ गया है। इसीलिए जब वह नवीं, दसवीं कक्षा में हिंदी पढ़ेगा तो जहाँ एक ओर हिंदी भाषा के माध्यम से सारे देश से जुड़ेगा वहीं दूसरी ओर अपने क्षेत्र और परिवेश को हिंदी भाषा के माध्यम से जानने की कोशिश भी करेगा क्योंकि किशोरवय के इन बच्चों के मानसिक धरातल का विकास विश्व स्तर तक पहुँच चुका होता है।

### शिक्षण उद्देश्य

- दैनिक जीवन में हिंदी में समझने-बोलने के साथ-साथ लिखने की क्षमता का विकास करना।
- हिंदी के किशोर-साहित्य, अखबार व पत्रिकाओं को पढ़कर समझ पाना और उसका आनंद उठाने की क्षमता का विकास करना।
- औपचारिक विषयों और संदर्भों में बातचीत में भाग ले पाने की क्षमता का विकास करना।
- हिंदी के जरिये अपने अनुभव-संसार को लिखकर सहज अभिव्यक्ति कर पाने में सक्षम बनाना।
- संचार के विभिन्न माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी के विभिन्न रूपों को समझने की योग्यता का विकास करना।
- कक्षा में बहुभाषिक, बहुसांस्कृतिक संदर्भों के प्रति संवेदनशील सकारात्मक सोच बनाना।
- अपनी मातृभाषा और परिवेशगत भाषा को साथ रखकर हिंदी की संरचनाओं की समझ बनाना।

### पाठ्यसामग्री और पाठ्य बिंदु

#### कक्षा IX और X के लिए

1. पाठ्यपुस्तक-काव्य और गद्य संग्रह (भाग 1 और 2)  
इस पुस्तक में कविता और गद्य के रुचिकर पाठों को स्थान दिया जाएगा। ये रचनाएँ देश में प्रचलित हिंदी के विभिन्न रूपों को बताते हुए भाषा की नियमबद्ध प्रकृति का उदाहरण होंगी। क्षेत्रीयता व आंचलिकता से बचते हुए भाषिक विविधता की पहचान कराई जाएगी। अभ्यास-प्रश्नों में पाठों की संदर्भगत भाषिक संरचनाओं से परिचित कराया जाएगा। पाठ्यपुस्तक के अंत में भिन्न ज्ञानानुशासनों में प्रयुक्त हिंदी शब्दावलियों से परिचित कराया जाएगा।
2. पूरक पाठ्यपुस्तक- विद्यार्थियों में पठन रुचि पैदा करने के लिए साहित्य की विविध विधाओं की रचनाओं का एक-एक संकलन (भाग 1-2) कक्षा IX और X के लिए तैयार किया जाएगा।
3. अध्यापकों को संबोधित एक पुस्तक -इस पुस्तक में साहित्य से भाषा की ओर ले जाने की युक्ति की चर्चा होगी। मौखिक (संवाद, वाद-विवाद, भाषण आदि) तथा लिखित (पुस्तक-समीक्षा, रिपोर्ट लेखन, अनुच्छेद लेखन आदि) भाषा की विशेषता पर कुछ सुझाव तथा टिप्पणियाँ।

#### टिप्पणी :

- इस पुस्तक में शारीरिक रूप से बाधाग्रस्त विद्यार्थियों का खास ख्याल रखा जाएगा।
- दृश्य-श्रव्य और मुख्य सामग्री के उपयोग से भाषा-शिक्षण को सुगम बनाया जाएगा। जो भाषा की विशेष प्रकृति को समझने में भी मदद करेंगे।



## शिक्षण-युक्तियाँ :

- द्वितीय भाषा के रूप में पढ़ाई जा रही हिंदी भाषा का स्तर पढ़ने और पढ़ाने दोनों ही दृष्टियों से मातृभाषा सीखने की तुलना में कुछ मंथर गति से चलेगा। यह गति धीरे-धीरे बढ़ सके, इसके लिए हिंदी अध्यापकों को बड़े धीरज से अपने अध्यापन कार्यक्रमों को नियोजित करना होगा। किसी भी द्वितीय भाषा में निपुणता प्राप्त करने-कराने का एक ही उपाय है- उस भाषा का लगातार रोचक अभ्यास करना-कराना। ये अभ्यास जितने अधिक रोचक, सक्रिय एवं प्रासंगिक होंगे, विद्यार्थियों की भाषिक उपलब्धि भी उतनी ही तेजी से हो सकेगी। मुखर भाषिक अभ्यास के लिए वार्तालाप, रोचक कहानी सुनना-सुनाना, घटना, वर्णन, चित्र-वर्णन, संवाद, वाद-विवाद, अभिनय, भाषण प्रतियोगिताएँ, कविता पाठ और अंत्याक्षरी जैसी गतिविधियों का सहारा लिया जा सकता है।
- मध्यकालीन काव्य की भाषा के मर्म से विद्यार्थी का परिचय कराने के लिए जरूरी होगा कि किताबों में आए काव्यांशों की संगीतबद्ध प्रस्तुतियों के ऑडियो-वीडियो कैसेट तैयार किए जाएँ। अगर आसानी से कोई गायक/गायिका मिले तो कक्षा में मध्यकालीन साहित्य के अध्यापन/शिक्षण में उससे मदद ली जानी चाहिए।
- वृत्तचित्रों और फीचर फ़िल्मों को शिक्षण सामग्री के तौर पर इस्तेमाल करने की जरूरत है। इनके प्रदर्शन के क्रम में इन पर लगातार बातचीत के जरिये सिनेमा के माध्यम से भाषा के प्रयोग की विशिष्टता की पहचान कराई जा सकती है और हिंदी की अलग-अलग छटा दिखाई जा सकती है।
- कक्षा में सिर्फ एक पाठ्यपुस्तक की भौतिक उपस्थिति से बेहतर यह है शिक्षक के हाथ में तरह-तरह की पाठ्यसामग्री को विद्यार्थी देख सकें और शिक्षक उनका कक्षा में अलग-अलग मौकों पर इस्तेमाल कर सकें।
- भाषा लगातार ग्रहण करने की प्रक्रिया में बनती है, इसे प्रदर्शित करने का एक तरीका यह भी है कि शिक्षक खुद यह सिखा सकें कि वे भी शब्दकोश, साहित्यकोश, संदर्भग्रंथ की लगातार मदद ले रहे हैं। इससे विद्यार्थियों में इनके इस्तेमाल करने को लेकर तत्परता बढ़ेगी। अनुमान के आधार पर निकटतम अर्थ तक पहुँचकर संतुष्ट होने की जगह वे अधिकतम अर्थ की खोज करने का अर्थ समझ जाएँगे। इससे शब्दों की अलग-अलग रंगत का पता चलेगा भी उनमें संवेदनशीलता बढ़ेगी। वे शब्दों के बारीक अंतर के प्रति और सजग हो पाएँगे।

## व्याकरण के बिंदु

### कक्षा IX

- वर्ण-विच्छेद, वर्तनी : र के विभिन्न रूप, बिंदु-चंद्रबिंदु, अर्धचंद्राकार नुक्ता
- तरह-तरह के पाठों के संदर्भ में शब्दों के अवलोकन द्वारा उपसर्ग, प्रत्यय और समास शब्दों की पहचान
- वाक्य के स्तर पर पर्यायवाची, विलोम और अनेकार्थी शब्दों का सुचिंतित प्रयोग
- मुहावरों का वाक्यों में प्रयोग और उनके लिए उचित संदर्भ/स्थितियों का वर्णन

### कक्षा X

- शब्द, पद और पदबंध में अंतर
- मिश्र और संयुक्त वाक्यों की संरचना और अर्थ, वाक्य रूपांतरण
- शब्दों के अवलोकन द्वारा संधि की पहचान, कुछ और उपसर्गों, प्रत्ययों और समास शब्दों की पहचान और उनके अर्थ का अनुमान
- मुहावरों और लोकोक्तियों का अंतर और उनका प्रयोग
- वाक्य के स्तर पर पर्यायवाची, विलोम और अनेकार्थी शब्दों का सुचिंतित प्रयोग



उच्चतर माध्यमिक स्तर में प्रवेश लेने वाला विद्यार्थी पहली बार सामान्य शिक्षा से विशेष अनुशासन की शिक्षा की ओर उन्मुख होता है। दस वर्षों में विद्यार्थी भाषा के कौशलों से परिचित हो जाता है। भाषा और साहित्य के स्तर पर उसका दायरा अब घर, पास-पड़ोस, स्कूल, प्रांत और देश से होता हुआ धीरे-धीरे विश्व तक फैल जाता है। वह इस उम्र में पहुँच चुका है कि देश की सांस्कृतिक, सामाजिक, राजनीतिक और आर्थिक समस्याओं पर विचार-विमर्श कर सके, एक जिम्मेदार नागरिक की तरह अपनी जिम्मेदारियों को समझ सके तथा देश और खुद को सही दिशा दे सकने में भाषा की ताकत को पहचान सके। ऐसे दृढ़ भाषिक और वैचारिक आधार के साथ जब विद्यार्थी आता है तो उसे विमर्श की भाषा के रूप में हिंदी की व्यापक समझ और प्रयोग में दक्ष बनाना सबसे पहला उद्देश्य होगा। किशोरावस्था से युवावस्था के इस नाजुक मोड़ पर किसी भी विषय का चुनाव करते समय बच्चे और उनके अभिभावक इस बात को लेकर सबसे अधिक चिंतित रहते हैं कि चयनित विषय उनके भावी कैरियर और जीविका के अवसरों में मदद करेगा कि नहीं। इस उम्र के विद्यार्थियों में चिंतन और निर्णय करने की प्रवृत्ति भी प्रबल होती है। इसी आधार पर वे अपने मानसिक, सामाजिक, बौद्धिक और भाषिक विकास के प्रति भी सचेत होते हैं और अपने भावी अध्ययन की दिशा तय करते हैं। इस स्तर पर ऐच्छिक हिंदी का अध्ययन एक सृजनात्मक, साहित्यिक, सांस्कृतिक और विभिन्न प्रयुक्तियों की भाषा के रूप में होगा। इस बात पर भी बल दिया जाएगा कि निरंतर विकसित होती हिंदी के अखिल भारतीय स्वरूप से बच्चे का रिश्ता बन सके।

इस स्तर पर विद्यार्थियों में भाषा के लिखित प्रयोग के साथ-साथ उसके मौखिक प्रयोग की कुशलता और दक्षता का विकास भी जरूरी है। प्रयास यह भी होगा कि विद्यार्थी अपने बिखरे हुए विचारों और भावों की सहज और मौलिक अभिव्यक्ति की क्षमता हासिल कर सकें।

इस पाठ्यक्रम के अध्ययन से (i) विद्यार्थी अपनी रुचि और आवश्यकता के अनुरूप साहित्य का गहन और विशेष अध्ययन जारी रख सकेंगे। (ii) विश्वविद्यालय स्तर पर निर्धारित हिंदी साहित्य से संबंधित पाठ्यक्रम के साथ सहज संबंध स्थापित कर सकेंगे। (iii) लेखन-कौशल के व्यावहारिक और सृजनात्मक रूपों की अभिव्यक्ति में सक्षम हो सकेंगे। (iv) रोजगार के किसी भी क्षेत्र में जाने पर भाषा का प्रयोग प्रभावी ढंग से कर सकेंगे। और (v) यह पाठ्यक्रम विद्यार्थी को संचार तथा प्रकाशन जैसे विभिन्न-क्षेत्रों में अपनी क्षमता आजमाने के अवसर प्रदान कर सकता है।

### उद्देश्य

- सृजनात्मक साहित्य की सराहना, उसका आनंद उठाना और उसके प्रति सृजनात्मक और आलोचनात्मक दृष्टि का विकास।
- साहित्य की विविध विधाओं (कविता, कहानी, निबंध आदि), महत्वपूर्ण कवियों और रचनाकारों, प्रमुख धाराओं और शैलियों का परिचय कराना।
- भाषा की सृजनात्मक बारीकियों और व्यावहारिक प्रयोग का बोध तथा उसकी संदर्भ और समय के अनुसार प्रभावशाली ढंग से मौखिक और लिखित अभिव्यक्ति कर सकना।
- विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति एवं क्षमता का बोध कराना।
- साहित्य की प्रभावकारी क्षमता का उपयोग करते हुए सभी प्रकार की विविधताओं (धर्म, जाति, लिंग, वर्ग, भाषा आदि) एवं अंतरों के प्रति सकारात्मक और संवेदनशील रवैये का विकास कराना।
- देश-विदेश में प्रचलित हिंदी के रूपों से परिचित कराना।
- संचार-माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से अवगत कराना और नवीन विधियों के प्रयोग की क्षमता का विकास करना।
- साहित्य की व्यापक धारा के बीच रखकर रचनाओं का विश्लेषण और विवेचन करने की क्षमता हासिल कराना।



- विपरीत पस्थितियों में भी भाषा का इस्तेमाल शांति के लिए करना।
- अमूर्तन की एकता का विकास और उसका कल्पनाशीलता तथा मौलिक विकास के लिए प्रयोग करना।

## पाठ्यसामग्री और पाठ्य बिंदु

### कक्षा XI और XII के लिए

1. काव्य और गद्य संग्रह (भाग-1 और भाग-2) इनमें प्रमुख रचनाकारों द्वारा लिखित विविध विधाओं से संबद्ध काव्य और गद्य (लगभग 20 पाठ) रचनाएँ होंगी। ये रचनाएँ रचनाकारों और विधाओं की भिन्न शैलियों से विद्यार्थी को परिचित कराएँगी। रचनाओं के साथ लेखक परिचय में उनकी साहित्यिक पृष्ठभूमि, साहित्यिक प्रवृत्ति संक्षेप में दी जा सकती है। प्रश्न-अभ्यासों में ऐसे प्रश्न होंगे जो विद्यार्थी की सृजनात्मकता और मौलिकता का विकास कर सकें। रचनाओं की प्रस्तुति इस प्रकार होगी कि विद्यार्थी के मन में साहित्य के विकासात्मक स्वरूप की समझ बन सके।
2. ग्यारहवीं और बारहवीं कक्षा के ऐच्छिक पाठ्यक्रम के लिए पूरक पठन का प्रावधान- साहित्य की विविध विधाओं की रचनाओं का एक-एक संकलन (भाग-1 और भाग-2)
3. रचनात्मक और व्यावहारिक लेखन पर आधारित एक पुस्तक- (कक्षा XI और XII दोनों के लिए) इस पुस्तक में निम्न विषय सम्मिलित होंगे-  
सर्जनात्मक लेखन-कविता, नाटक, डायरी, कहानी  
सूचना तंत्र के लिए लेखन-  
(क) प्रिंटमाध्यम (समाचार पत्र और पत्रिका)।  
वृत्त लेखन, पुस्तक-समीक्षा, साक्षात्कार, सामाजिक विषयों पर लेखन  
(ख) इलेक्ट्रॉनिक माध्यम -  
रेडियो-दूरदर्शन के लिए लेखन, समाचार लेखन  
व्यावहारिक लेखन -  
प्रतिवेदन, कार्यसूची, कार्यवृत्त
5. अध्यापकों को संबोधित एक पुस्तक- (इस पुस्तक में विधा विशेष की बनावट और पढ़ना-पढ़ाना, विद्यार्थियों को मौखिक और लिखित अभिव्यक्ति की बारीकियों से परिचित कराने की युक्तियाँ, शारीरिक रूप से बाधाग्रस्त विद्यार्थियों के लिए युक्ति तथा दृश्य-श्रव्य सामग्री के उपयोग से प्रभावी ढंग से पढ़ने-पढ़ाने पर चर्चा होगी)- यह पुस्तक दोनों कक्षाओं के लिए होगी।

### टिप्पणी :

1. इस पूरे पाठ्यक्रम में चयन और प्रस्तुति दोनों स्तरों पर शारीरिक रूप से बाधाग्रस्त विद्यार्थियों पर विशेष ध्यान दिया जाएगा।
2. काव्य, गद्य और इतिहास पर रचनात्मक/परिचयात्मक कार्यक्रम बनाए जाएँगे।

### शिक्षण-युक्तियाँ

इन कक्षाओं में अध्यापकों की भूमिका उचित वातावरण निर्माण में सहायक की होनी चाहिए। उनको भाषा और साहित्य की पढ़ाई में इस बात पर ध्यान देने की जरूरत होगी कि-

- कक्षा का वातावरण संवादात्मक हो ताकि अध्यापक, विद्यार्थी और पुस्तक तीनों के बीच एक रिश्ता बन सकें।
- गलत से सही की ओर पहुँचने का प्रयास हो। यानि बच्चों को स्वतंत्र रूप से बोलने, लिखने और पढ़ने दिया जाए और फिर उनसे होने वाली भूलों की पहचान कर अध्यापक अपनी पढ़ाने की शैली में परिवर्तन करो।
- ऐसे शिक्षण बिंदुओं की पहचान की जाए जिससे कक्षा में विद्यार्थी की सक्रिय भागीदारी रहे और अध्यापक भी उनका साथी हो।



- शारीरिक बाधाग्रस्त विद्यार्थियों के लिए उपयुक्त शिक्षण-सामग्री का इस्तेमाल किया जाए तथा किसी भी प्रकार से उन्हें अन्य विद्यार्थियों से कमतर या अलग न समझा जाए।
- विभिन्न विधाओं से संबंधित रुचिकर और महत्वपूर्ण 10 अन्य पुस्तकें- जिनका जिक्र पाठ्यपुस्तक के अंत में किया जाएगा-स्वयं पढ़ने के लिए प्रेरित किया जाए।
- कक्षा में अध्यापक को हर प्रकार की विभिन्नताओं (लिंग, धर्म, जाति, वर्ग आदि) के प्रति सकारात्मक और संवेदनशील वातावरण निर्मित करना चाहिए।
- सृजनात्मकता के अभ्यास के लिए विद्यार्थी से साल में कम से कम दो रचनाएँ लिखवाई जाएँ।

## अंक विभाजन

मूल्यांकन की दृष्टि से अध्ययन के लिए स्वीकृत शिक्षण-सामग्री पर 100 अंक निर्धारित किए जाएँगे जिसका अंक विभाजन इस प्रकार किया जा सकता है :

लिखित 80 प्रतिशत

मौखिक 20 प्रतिशत

## हिंदी (आधार): कक्षा XI-XII

माध्यमिक  
तथा

उच्च माध्यमिक  
कक्षाओं  
के लिए  
पाठ्यक्रम

178

### प्रस्तावना

दसवीं कक्षा तक हिंदी का अध्ययन करने वाला विद्यार्थी समझते हुए पढ़ने व सुनने के साथ-साथ हिंदी में सोचने और उसे मौखिक एवं लिखित रूप में व्यक्त कर पाने की सामान्य दक्षता अर्जित कर चुका होता है। उच्चतर माध्यमिक स्तर पर आने के बाद इन सभी दक्षताओं को सामान्य से ऊपर उस स्तर तक ले जाने की दरकार होती है, जहाँ भाषा का इस्तेमाल भिन्न-भिन्न व्यवहार-क्षेत्रों की माँगों के अनुरूप किया जा सके। आधार पाठ्यक्रम साहित्यिक बोध के साथ-साथ भाषाई दक्षता के विकास को ज्यादा अहमियत देता है। यह पाठ्यक्रम उन विद्यार्थियों के लिए उपयोगी साबित होगा, जो आगे विश्वविद्यालय में अध्ययन करते हुए हिंदी को एक विषय के रूप में पढ़ेंगे या विज्ञान/समाजविज्ञान के किसी विषय को हिंदी माध्यम से पढ़ना चाहेंगे। यह उनके लिए भी उपयोगी साबित होगा, जो उच्चतर माध्यमिक स्तर की शिक्षा के बाद किसी तरह के रोजगार में लग जाएँगे। वहाँ कामकाजी हिंदी का आधारभूत अध्ययन काम आएगा। जिन विद्यार्थियों की दिलचस्पी जनसंचार माध्यमों में होगी, उनके लिए यह पाठ्यक्रम एक आरंभिक पृष्ठभूमि निर्मित करेगा। इसके साथ ही यह पाठ्यक्रम सामान्य रूप से तरह-तरह के साहित्य के साथ विद्यार्थियों के संबंध को सहज बनाएगा। विद्यार्थी भाषिक अभिव्यक्ति के सूक्ष्म एवं जटिल रूपों से परिचित हो सकेंगे, वे यथार्थ को अपने विचारों में व्यवस्थित करने के साधन के तौर पर भाषा का अधिक सार्थक उपयोग कर पाएँगे और उनमें जीवन के प्रति मानवीय संवेदना एवं सम्यक् दृष्टि का विकास हो सकेगा।

### उद्देश्य

- इन माध्यमों और विधाओं के लिए उपयुक्त भाषा प्रयोग की इतनी क्षमता उनमें आ चुकी होगी कि वे स्वयं इससे जुड़े उच्चतर पाठ्यक्रमों को समझ सकेंगे।
- सामाजिक हिंसा की भाषिक अभिव्यक्ति की समझ।
- भाषा के अंदर सक्रिय सत्ता संबंध की समझ।
- सृजनात्मक साहित्य को सराह पाने और उसका आनंद उठाने की क्षमता का विकास तथा भाषा में सौंदर्यात्मकता उत्पन्न करने वाली सृजनात्मक युक्तियों की संवेदना का विकास।
- विद्यार्थियों के भीतर सभी प्रकार की विविधताओं (धर्म, जाति, जेंडर, क्षेत्र, भाषा संबंधी) के प्रति सकारात्मक एवं विवेकपूर्ण रवैये का विकास।



- पठन-सामग्री को भिन्न-भिन्न कोणों से अलग-अलग सामाजिक, सांस्कृतिक चिन्ताओं के परिप्रेक्ष्य में देखने का अभ्यास कराना तथा नज़रिये की एकांगिकता के प्रति आलोचनात्मक दृष्टि का विकास करना।
- विद्यार्थी में स्तरीय साहित्य की समझ और उसका आनंद उठाने की स्फूर्ति का विकास तथा साहित्य को श्रेष्ठ बनाने वाले तत्वों की संवेदना का विकास।
- विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति और उसकी क्षमताओं का बोध।
- कामकाजी हिंदी के उपयोग के कौशल का विकास।
- संचार माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से परिचय और इन माध्यमों की माँगों के अनुरूप मौखिक एवं लिखित अभिव्यक्ति का विकास।
- विद्यार्थी में किसी भी अपरिचित विषय से संबंधित प्रासंगिक जानकारी के स्रोतों का अनुसंधान और उन्हें व्यवस्थित ढंग से उनकी मौखिक और लिखित प्रस्तुति करने की क्षमता का विकास।

### पाठ्यसामग्री

#### कक्षा XI-XII के लिए

- (1) गद्य-पद्य संग्रह, भाग-1 और भाग-2
- (2) 11, 12 के लिए कामकाजी हिंदी, रचनात्मक लेखन, जनसंचार माध्यम का परिचय देने के लिए एक पुस्तक। इसमें (कामकाजी हिंदी, रचनात्मक लेखन, जनसंचार माध्यम से संबंधित सामग्री का समावेश होगा।)
- (3) पूरक पाठ्यपुस्तक- कक्षा XI-XII दोनों के लिए साहित्य की विविध विधाओं की रचनाओं का एक-एक संकलन (भाग-1-2)

#### पाठ्य सामग्री का विस्तृत विवरण

- गद्य-पद्य संग्रह, (भाग-1) इनमें 15-18 अध्याय होंगे। कविताएँ, कहानियाँ, यत्र-वृत्तांत, संस्मरण, जीवनी, रेखाचित्र डायरी, निबंध, आत्मकथा इत्यादि हिंदी की विभिन्न साहित्यिक विधाओं से संबंधित 15-18 पाठ। पाठ्यचर्या की सिफारिश के मुताबिक कम से कम 20 फीसदी रचनाएँ हिंदीतर भाषाओं से अनूदित होंगी। पाठों के चयन में इस बात का ध्यान रखा जाएगा कि वे रोचक व सुरुचिपूर्ण हों, विविधताओं की सहज उपस्थिति की तरफ विद्यार्थियों का ध्यान आकृष्ट करें और उपदेशात्मक बोझिलता से मुक्त रहकर संवेदनशील मानवीय दृष्टि का विकास करने में समर्थ हों। पाठ्यसामग्री देश की सामासिक संस्कृति और अंतर्राष्ट्रीयता की भावना से युक्त होगी और बहुभाषिकता को दर्शाने वाली होगी। प्रत्येक पाठ के अंत में प्रश्न और अभ्यास होंगे। अभ्यास मुख्यतः रचना के आलोचनात्मक विवेचन, अलग-अलग नज़रियों से उसके अवगाहन एवं पाठ की भाषा-संरचना से संबंधित होंगे।
- इस पुस्तक में व्यावहारिक रचना संबंधी निम्नलिखित बिंदुओं का समावेश किया जा सकता है-
  - कार्यालयी पत्र, प्रारूप एवं टिप्पण लेखन (प्रारंभिक स्तर के) की पद्धति और उनके नमूने।
  - रोजगार संबंधी आवेदन-पत्र की लेखन-विधि और उसके नमूने।
  - स्ववृत्त-लेखन की विधि और उसके नमूने।
  - विभिन्न विभागों (पानी, बिजली, टेलीफोन, परिवहन आदि) से संबंधित समस्याओं के बारे में विभागीय अधिकारियों को लिखे जाने वाले पत्रों के नमूने।
  - विज्ञापन-लेखन की विधि और उसके उदाहरण।
  - शब्दकोश, संदर्भ-ग्रंथों का संक्षिप्त परिचय और उनकी उपयोग-विधि की जानकारी।
  - गैरपारंपरिक एवं अप्रत्याशित विषयों (मसलन- किसानों की आत्महत्या, हिंसक विज्ञापन, कामकाजी औरत की शाम) पर अनुच्छेद एवं निबंध के नमूने।



— भाषण, उद्घोषणा, स्वागत-भाषण, संगोष्ठी-संचालन, आंखों देखा हाल आदि के प्रभावी संप्रेषण के लिए उपयुक्त शब्दावली, भाषा-रूपों, अभिव्यक्तियों इत्यादि की जानकारी, ताकि उनका मौखिक अभ्यास कराना संभव हो।

शिक्षण की प्रक्रिया में इन उदाहरणों का उपयोग प्रसंगानुकूल लिखित अथवा मौखिक अभिव्यक्ति का अभ्यास कराने के लिए होगा।

- गद्य-पद्य संग्रह, भाग-2 : इसमें 15 अध्याय होंगे। कविताएँ, कहानियाँ एवं संस्मरण, यात्रावृत्तांत, आत्मकथात्मक लेख, अखबारों के संपादकीय अग्रलेख, सिनेमा, अर्थशास्त्र, इतिहास, समाजशास्त्र, विज्ञान इत्यादि से संबंधित। कम से कम 20 फीसदी रचनाएँ हिंदीतर भाषाओं से ली जाएँगी। साहित्येतर विषयों से संबंधित लेखन को शामिल करते हुए यह ध्यान रखा जाएगा कि विद्यार्थी को हिंदी के उस रूप की विशिष्ट प्रकृति का बोध हो। पाठों के अंत में दिए गए अभ्यास के अंतर्गत पाठ की समझ एवं सराहना (भाग-1 के प्रसंग में पूर्वोल्लिखित) से संबंधित प्रश्न होंगे, साथ ही, भाषा की नियमबद्ध प्रकृति एवं विमर्शगत प्रकृति को रेखांकित करने वाले अभ्यास होंगे।

- जनसंचार माध्यमों की विधाएँ : विभिन्न जनसंचार माध्यमों का परिचय देना और उनकी मुख्य विधाओं का प्रारंभिक अभ्यास कराना पाठ्यक्रम के इस हिस्से का उद्देश्य है। अलग-अलग माध्यमों की मुख्य विधाएँ इस प्रकार हो सकती हैं -

प्रिंट माध्यम: समाचार, संपादकीय, फीचर (अपने निकट के जीवन-संदर्भों से जुड़कर इन विधाओं में लेखन करना - मसलन, स्कूल की किसी घटना पर संपादकीय, गली-मोहल्ले के किसी बड़े आयोजन पर फीचर इत्यादि तथा उनके लिए उपयुक्त शीर्षक बनाना)।

नाटक: किसी कहानी, प्रसंग, कविता आदि का नाट्यरूपांतर और उसकी प्रस्तुति।

रेडियो : समाचार एवं रेडियो-नाटक रूपांतर (किसी नाटक/एकांकी का रेडियो-नाट्य-रूपांतरण कराया जा सकता है।)

इंटरनेट: इंटरनेट का परिचय और 'वेब' की दुनिया में हिंदी की स्थिति की जानकारी।

## अंकों का विभाजन

दोनों कक्षाओं में हिंदी (आधार) के पर्व 100-100 अंक के होंगे, जिनमें से 40-40 अंक गद्य-पद्य संग्रह के लिए 40-40 अंक दूसरी पुस्तक के लिए एवं 20-20 अंक सतत एवं आंतरिक मूल्यांकन के लिए होंगे जिसका आधार पूरक पठन की पुस्तक और मौखिक अभिव्यक्ति का अभ्यास होगा।

## शिक्षण-युक्तियाँ

- कुछ बातें इस स्तर पर हिंदी शिक्षण के लक्ष्यों के संदर्भ में सामान्य रूप से कही जा सकती हैं। एक तो यही कि कक्षा में दबाव एवं तनाव मुक्त माहौल होने की स्थिति में ही ये लक्ष्य हासिल किए जा सकते हैं। चूँकि इस पाठ्यक्रम में तैयारशुदा उत्तरों को कंठस्थ कर लेने की कोई अपेक्षा नहीं है, इसलिए चीजों को समझने और उस समझ के आधार पर उत्तर को शब्दबद्ध करने की योग्यता विकसित करना ही हमारा काम है। इस योग्यता के विकास के लिए कक्षा में विद्यार्थियों और शिक्षक के बीच निर्बाध संवाद जरूरी है। विद्यार्थी अपनी शंकाओं और उलझनों को जितना ही अधिक व्यक्त करेंगे, उतनी ही ज्यादा सफ़ाई उनमें आ पाएगी।
- भाषा की कक्षा से समाज में मौजूद विभिन्न प्रकार के द्वंद्वों पर बातचीत का मंच बनाना चाहिए। उदाहरण के लिए संविधान में शब्द विशेष के प्रयोग पर मनाही को चर्चा का विषय बनाया जा सकता है। यह समझ जरूरी है कि छात्रों को सिर्फ सकारात्मक पाठ देने से नहीं काम चलेगा बल्कि उन्हें समझाकर भाषिक यथार्थ का सीधे सामना करवाने वाले पाठों से परिचय होना जरूरी है।
- शंकाओं और उलझनों को रखने के अलावा भी कक्षा में विद्यार्थियों को अधिक-से-अधिक बोलने के लिए प्रेरित किया जाना जरूरी है। उन्हें यह अहसास कराया जाना चाहिए कि वे पठित सामग्री पर राय देने का



- अधिकार और उसकी काबिलीयत रखते हैं। उनकी राय को तवज्जो देने और उसे बेहतर तरीके से पुनर्प्रस्तुत करने की अध्यापकीय शैली यहाँ बहुत उपयोगी होगी।
- विद्यार्थियों को संवाद में शामिल करने के लिए यह भी जरूरी होगा कि उन्हें एक नामहीन समूह न मानकर अलग-अलग व्यक्तियों के रूप में अहमियत दी जाए। शिक्षक को अकसर एक कुशल संयोजक की भूमिका में स्वयं को देखना होगा, जो किसी भी इच्छुक व्यक्ति को संवाद का भागीदार बनने से वंचित नहीं रखता, उसके कच्चे-पक्के वक्तव्य को मानक भाषा-शैली में ढालकर उसे एक आभा दे देता है और मौन को अभिव्यंजना मान बैठे लोगों को मुखर होने पर बाध्य कर देता है।
  - अप्रत्याशित विषयों पर चिंतन करने और सोचे हुए की मौखिक व लिखित अभिव्यक्ति करने की योग्यता का विकास शिक्षक के सचेत प्रयास से ही संभव है। इसके लिए शिक्षक को एक निश्चित अंतराल पर नए-नए विषय प्रस्तावित कर लेख एवं अनुच्छेद लिखने तथा संभाषण करने के लिए पूरी कक्षा को प्रेरित करना होगा। यह अभ्यास ऐसा है, जिसमें विषयों की कोई सीमा तय नहीं की जा सकती। विषय की निस्सीम संभावना के बीच शिक्षक यह सुनिश्चित कर सकता है कि उसके विद्यार्थी किसी निबंध-संकलन या कुंजी से तैयारशुदा सामग्री को उतार भर न लें। तैयारशुदा सामग्री के लोभ से, बाध्यतावश ही सही मुक्ति पाकर विद्यार्थी नये तरीके से सोचने और उसे शब्दबद्ध करने के यत्न में सन्नद्ध होंगे। मौखिक अभिव्यक्ति पर भी विशेष ध्यान देने की जरूरत है, क्योंकि भविष्य में साक्षात्कार, संगोष्ठी जैसे मौकों पर यही योग्यता विद्यार्थी के काम आती है। इसके अभ्यास के सिलसिले में शिक्षक को उचित हावभाव, मानक उच्चारण, पॉज, बलाघात, हाजिरजवाबी इत्यादि पर खास बल देना होगा।
  - मध्यकालीन काव्य की भाषा के मर्म से विद्यार्थी का परिचय कराने के लिए जरूरी होगा कि किताबों में आए काव्यांशों की संगीतबद्ध प्रस्तुतियों के ऑडियो-वीडियो कैसेट का तैयार किए जाएँ। अगर आसानी से कोई गायक/गायिका मिले तो कक्षा में मध्यकालीन साहित्य के अध्यापन/शिक्षण में उससे मदद ली जानी चाहिए।
  - वृत्तचित्रों और फ़ीचर फ़िल्मों को शिक्षण सामग्री के तौर पर इस्तेमाल करने की जरूरत है। इनके प्रदर्शन के क्रम में इन पर लगातार बातचीत के जरिये सिनेमा के माध्यम से भाषा के प्रयोग की विशिष्टता की पहचान कराई जा सकती है और हिंदी की अलग-अलग छटा दिखाई जा सकती है। विद्यार्थियों को स्तरीय परीक्षा करने को भी कहा जा सकता है।
  - कक्षा में सिर्फ एक पाठ्यपुस्तक की भौतिक उपस्थिति से बेहतर यह है कि शिक्षक के हाथ में तरह-तरह की पाठ्यसामग्री को विद्यार्थी देख सकें और शिक्षक उनका कक्षा में अलग-अलग मौकों पर इस्तेमाल कर सकें।
  - भाषा लगातार ग्रहण करने की क्रिया में बनती है, इसे प्रदर्शित करने का एक तरीका यह भी है कि शिक्षक खुद यह सिखा सकें कि वे भी शब्दकोश, साहित्यकोश, संदर्भग्रंथ की लगातार मदद ले रहे हैं। इससे विद्यार्थियों में इसका इस्तेमाल करने को लेकर तत्परता बढ़ेगी। अनुमान के आधार पर निकटतम अर्थ तक पहुँचकर संतुष्ट होने की जगह वे सही अर्थ की खोज करने का अर्थ समझ जाएँगे। इससे शब्दों की अलग-अलग रंगत का पता चलेगा और उनमें संवेदनशीलता बढ़ेगी। वे शब्दों के बारीक अंतर के प्रति और सजग हो जाएँगे।
  - कक्षा-अध्यापन के पूरक कार्य के रूप में सेमिनार, ट्यूटोरियल कार्य, समस्या-समाधान कार्य, समूह चर्चा, परियोजना कार्य, स्वाध्याय आदि पर बल दिया जाना चाहिए। पाठ्यक्रम में जनसंचार माध्यमों से संबंधित अंशों को देखते हुए यह जरूरी है कि समय-समय पर इन माध्यमों से जुड़े व्यक्तियों और विशेषज्ञों को भी स्कूल में बुलाया जाए तथा उनकी देख-रेख में कार्यशालाएँ आयोजित की जाएँ।

### मूल्यांकन :

चूँकि यह पाठ्यक्रम 20 फीसदी अंक सतत् एवं आंतरिक मूल्यांकन के लिए सुरक्षित रखने की सिफ़ारिश करता है, इसलिए कक्षा में शिक्षक की भूमिका बहुत महत्वपूर्ण हो जाती है। उसे पाठ्यपुस्तकों के अतिरिक्त अन्य पुस्तकों के प्रति विद्यार्थी को उत्सुक बनाना है, उनकी समीक्षा एवं उन पर आयोजित संगोष्ठी के आधार पर विद्यार्थी को अंक देने हैं और इसके साथ-साथ अन्य रूपों में भी उसकी मौखिक अभिव्यक्ति का परीक्षण-मूल्यांकन करना है, इसलिए कक्षा को लगातार सक्रिय और ऊर्जस्वी बनाए रखने का गुरुतर भार उसके कंधों पर है।



# संस्कृत (ऐच्छिक)

संस्कृत पाठ्यक्रम (ऐच्छिक)  
कक्षा IX-X (माध्यमिक स्तर)

## भूमिका

संस्कृत विश्व की एक प्राचीनतम भाषा है। इसका साहित्य ऋग्वेद-काल से लेकर आज तक अबाध गति से प्रवाहित है। ज्ञान-विज्ञान के विभिन्न क्षेत्रों में जितने ग्रन्थ इस भाषा में लिखे गए हैं उतने किसी अन्य प्राचीन भाषा में नहीं प्राप्त होते। अधिकांश भारतीय भाषाओं में संस्कृत शब्दों की बहुलता है। अतः संस्कृत भाषा का ज्ञान अन्य भारतीय भाषाओं के सीखने में सहायक सिद्ध होता है। संस्कृत भाषा और साहित्य का राष्ट्रीय एकता की दृष्टि से बहुत महत्त्व है। संस्कृत साहित्य की मूल चेतना, (विविधता को बनाए रखते हुए) भारत को एक राष्ट्र के रूप में देखने की है। भारतवर्ष में क्षेत्रीय विषमताओं के होने पर भी जिन तत्त्वों ने इस देश को एक सूत्र में बाँध रखा है उनमें संस्कृत भाषा तथा इसका साहित्य प्रमुख है। संस्कृत साहित्य ने उत्तर-दक्षिण या पूर्व-पश्चिम का भेदभाव मिटाकर प्रत्येक नागरिक को भारतीय होने का स्वाभिमान प्रदान किया है। इस भाषा में भारतीय सभ्यता, धर्म, दर्शन, इतिहास, पुराण, भूगोल, राजनीति एवं विज्ञान का प्रचुर साहित्य प्रत्येक विधा में तथा समकालीन साहित्य भी विपुल मात्रा में उपलब्ध है जिसका अनुशीलन समाज के लिए अत्यन्त उपयोगी है।

संस्कृत को केवल एक प्राचीन भाषा मानना ही पर्याप्त नहीं है। आधुनिक संस्कृत अन्य भारतीय भाषाओं की तरह भारतीय बहुभाषिकता की एक अभिन्न अंग है। जिस प्रकार बहुभाषी कक्षा में अन्य भाषाओं के सीखने में संस्कृत सहायक होती है उसी प्रकार संस्कृत भाषा को सीखने में अन्य भाषाओं का सहयोग भी लिया जा सकता है।

बहुभाषिकता के प्रति आदर एक ऐसा सशक्त दृष्टिकोण है, जिससे भाषा-शिक्षण की पूरी विधि ही बदल सकती है।

इसी दृष्टिकोण से माध्यमिक स्तर पर (कक्षा IX-X) संस्कृत के पठन-पाठन के लिए पाठ्यक्रम विकसित किया गया है।

## सामान्य उद्देश्य

माध्यमिक स्तर पर संस्कृत के पठन-पाठन के निम्नलिखित उद्देश्य हैं :

- संस्कृत भाषा का सामान्य ज्ञान कराना जिससे संस्कृत के सरलांशों को सुनकर या पढ़कर विद्यार्थी समझ सकें एवं मौखिक तथा लिखित अभिव्यक्ति कर सकें।
- संस्कृत साहित्य के प्रति विद्यार्थियों में अभिरुचि उत्पन्न करना।
- संस्कृत साहित्य की प्रमुख विधाओं की प्रतिनिधि रचनाओं (प्राचीन एवं अर्वाचीन) से विद्यार्थियों का परिचय कराना।
- विद्यार्थियों में राष्ट्रीय, सांस्कृतिक, सामाजिक एवं नैतिक मूल्यों को विकसित करना।



## विशिष्ट उद्देश्य

### श्रवण

- कक्षा में अध्यापक अथवा सहपाठी द्वारा पढ़े गए पाठ अथवा कहे गए विचारों को ध्यानपूर्वक सुनना तथा सार ग्रहण करते हुए अपेक्षित क्रिया करना।
- रेडियो तथा दूरदर्शन द्वारा प्रसारित संस्कृत कार्यक्रमों को ध्यानपूर्वक सुनना तथा समझना।
- सहपाठी तथा अध्यापक के कथनों को सुनकर प्रश्न पूछना।

### वाचन (भाषण)

- पठित सामग्री पर पूछे गए प्रश्नों का उत्तर दे सकना।
- अपने विचारों को प्रकट करते समय उचित शब्दों पर बलाघात करते हुए बोल सकना।
- प्रश्नवाचक आदि भावों को समाहित करते हुए अपने विचारों को स्पष्टता, तथा विनम्रता के साथ प्रकट कर सकना।

### पठन

- संस्कृत के गद्य तथा पद्य खण्डों तथा नाट्यांशों का स्पष्ट तथा शुद्ध पाठ करते हुए सारांश समझ सकना।
- संस्कृत वाक्यों का प्रवाह के साथ पाठ कर सकना।
- पाठ्यपुस्तक में प्रयुक्त छंदों (पद्यों) का लय के अनुसार सस्वर पाठ करना।

### लेखन एवं रचना

- संस्कृत के पठित पदों तथा वाक्यों को सुनकर उन्हें शुद्ध वर्तनी में लिख सकना।
- संधियुक्त गद्यांशों का अनुलेखन कर सकना।
- पठित कहानी या उसके अंश का सार संस्कृत (पाँच वाक्यों) में लिख सकना।
- किसी परिचित विषय अथवा पठित विषय पर सरल संस्कृत वाक्यों में अपने भाव अभिव्यक्त कर सकना।
- किसी संस्कृत कहानी अथवा निबंध को पढ़कर उसके लिए उचित शीर्षक सुझा सकना।

### स्तरांत क्षमताएँ

कक्षा 9 तथा 10वीं में संस्कृत पढ़ने के पश्चात् विद्यार्थियों में निम्नलिखित क्षमताओं का विकास हो सकेगा—

- विद्यार्थी संस्कृत में पूछे गए सरल एवं लघु प्रश्नों का उत्तर दे सकेगा।
- किसी परिचित वस्तु, स्थान एवं घटना का पाँच छोटे-छोटे संस्कृत वाक्यों में वर्णन कर सकेगा।
- पठित सामग्री पर पूछे गए प्रश्नों के उत्तर दे सकेगा।
- सहपाठी तथा अध्यापक के विचारों को सुनकर प्रश्न पूछ सकेगा।
- संस्कृत के गद्य, पद्य एवं नाट्यांश खण्डों का प्रवाह तथा उचित लय एवं गति के साथ पाठ कर सकेगा।
- संस्कृत के गद्य खण्डों तथा पद्य का शुद्ध-शुद्ध पाठ करते हुए सारांश समझ सकेगा।
- पठित कहानी या पाठ का सारांश संस्कृत के पाँच वाक्यों में लिख सकेगा।
- किसी संस्कृत कहानी एवं निबन्ध को पढ़कर उसके लिए उचित शीर्षक सुझा सकेगा।
- किसी पठित अथवा सुने हुए विषयों में विद्यमान गुण-दोषों अथवा मूल्यों के सन्दर्भ में अपना मत रख सकेगा।



## पाठ्यक्रम एवं पाठ्य सामग्री

कक्षा 9 तथा 10वीं के लिए निम्नलिखित पाठ्यसामग्री होगी :

1. पाठ्यपुस्तक 50 अंक
2. व्याकरण एवं रचना 50 अंक

कक्षा 9 तथा 10 के लिए एन.सी.ई.आर.टी. द्वारा निर्मित एक-एक पाठ्यपुस्तक निर्धारित होगी जिसमें 12-12 पाठ होंगे। 75 प्रतिशत पाठ संकलित तथा 25 प्रतिशत पाठ लिखित हो सकते हैं। इसके अतिरिक्त दोनों ही कक्षाओं के लिये द्रुतपाठ के रूप में निर्मित एक अन्य पुस्तक का प्रावधान वांछनीय है। एतदर्थ एन.सी.ई.आर.टी. द्वारा प्रकाशित की जाने वाली *सूक्तिः सौख्यम्* द्वितीय पुष्पम् को अनुशंसित किया जा सकता है। विद्यार्थियों की सहायता हेतु प्रायोगिक व्याकरण की एक अलग पुस्तक वांछनीय है। एतदर्थ एन.सी.ई.आर.टी. द्वारा निर्मित व्याकरण की पुस्तक को अनुशंसित किया जा सकता है।

### पाठ्य-विषय

पाठ्यविषय के रूप में आकर्षक कथा, सरल संवाद, नाटकीय दृश्य, लघु वर्णन, सुन्दर, सुबोध एवं शिक्षाप्रद श्लोक, गेय ललित पद्य, प्रकृति वर्णन, विशिष्ट बालक, बालिकाओं एवं महापुरुषों के जीवन-चरित्र आदि को आधार बनाया जा सकता है। विषय-चयन के समय इस बात का ध्यान रखना होगा कि पाठों में विविधता एवं रोचकता बनी रहे। प्रत्येक पाठ्यपुस्तक में लगभग 20 प्रतिशत अन्य भाषाओं का संस्कृत अनुवाद तथा 30 प्रतिशत नवीन मौलिक साहित्य का समावेश किया जाना चाहिए।

### कक्षा IX के लिए व्याकरण

1. वर्ण परिचय तथा उच्चारण-स्थान। 2
2. संधि परिचय तथा उसके भेद-स्वर संधि, दीर्घ, गुण, यण्, वृद्धि आदि। 6
3. शब्दरूप 3  
(क) स्वरान्त-बालक, फल, लता, मुनि, पति, भूपति, नदी, भानु, धेनु, मधु, पितृ, मातृ आदि।  
(ख) व्यंजनान्त-राजन्, भवत्, आत्मन्, विद्वस्, चन्द्रमस्, वाच्, गच्छत् (शत्रन्त)।  
(ग) सर्वनाम-सर्व, यत्, तत्, किम्, इदम् (सभी लिंगों में) अस्मद् तथा युष्मद्।  
(घ) संख्यावाची शब्द-एक से पचास तक।
4. धातुरूप - (लट्, लङ्, लृट्, लोट्, विधिलिङ्,) 3  
(क) भ्वादिगण- भू, पा, श्रु, गम्, पच्, पठ्, लिख्, स्था, दृश्, अस्, सेव्, लभ्।  
(ख) अदादिगण-अद्, ब्रू  
(ग) स्वादि गण- चि (चुनना), शक्  
(घ) तुदादिगण-तुद्, इष्, मिल, सिच्  
(ङ) क्र्यादिगण- क्री  
(च) चुरादिगण- चुर, भक्ष, कथ





5. उपसर्ग	2
6. प्रत्यय	5
(क) स्त्रीप्रत्यय—टाप्, डीप्, डीष्, डीन्	
(ख) कृदन्तप्रत्यय— क्त्वा, ल्यप्, तुमुन्, शतृ, शानच्, क्तिन्	
(ग) तद्धित प्रत्यय—मतुप्, इनि, तरप्, तमप्, मयट्	
7. कारकों का सामान्य ज्ञान	5
8. समास का सामान्य परिचय—द्वन्द्व, तत्पुरुष द्विगु	4
9. रचना	
(क) हिन्दी अंग्रेजी के सरल वाक्यों का संस्कृत में अनुवाद।	5
(ख) अपठित अनुच्छेद पर आधारित संस्कृत में प्रश्नोत्तर।	5
(ग) चित्र पर आधारित संस्कृत में वाक्य रचना।	5
(घ) प्रार्थना पत्र	5

## X कक्षा 10 के लिए व्याकरण रचना एवं अनुवाद

1. संधि	5
(क) पूर्वरूप, पररूप, एवं प्रकृतिभाव।	
(ख) व्यंजन संधि— श्चुत्व, ष्टुत्व, जश्त्व, चर्त्व, अनुस्वार।	
(ग) विसर्ग संधि— सत्व, उत्त्व, रुत्व, लोप।	
2. शब्दरूप	3
(क) स्वरान्त—गो, द्यौ, नौ, अक्षि।	
(ख) व्यंजनान्त—पुंस्, पथिन्, गिर्, अहन्, पयस्।	
(ग) सर्वनाम— अदस्, ईदृश्, कतिपय, उभ, कीदृश्।	
(घ) संख्यावाची शब्द—	
(क) क्रमसंख्यावाची शब्द— प्रथम, द्वितीय आदि।	
(ख) पचास से सौ तक।	
3. धातुरूप	3
(क) भ्वादिगण— दा (यच्छ), अर्च, व्रज्, तप्, शुच्, ह, नी, भज्, यज्।	
(ख) अदादिगण—हन्, पा (रक्षणे), दुह्	
(ग) जुहोत्यादिगण— दा (दाने)	
(घ) दिवादिगण— त्रस्, नृत्, नश्	
(ङ) स्वादिगण— सु, आप्	
(च) तुदादिगण—मुञ्च, विश्, प्रच्छ, विद् (लाभे)	
(छ) तनादिगण— कृ, तनु	
(ज) क्र्यादिगण—ग्रह्	
(झ) चुरादिगण— गण्, पाल्	
4. अव्यय	4
5. प्रत्यय	5



(क) कृदन्त प्रत्यय— क्त, क्तवतु, तव्यत्, तव्य, अनीयर्, यत्, ण्यत्, ण्वुल्, ल्युट्, तृच्, णिनि ।

(ख) तद्धित प्रत्यय—अण्, इनि, ठक्, इतच्, त्व, तल्, यत्, थाल्

6. कारकों तथा उपपद विभक्तियाँ 5
7. समास — अव्ययीभाव, कर्मधारय, बहुब्रीहि 5
8. रचना 5
- (क) हिन्दी तथा अंग्रेजी के अवतरणों का संस्कृत में अनुवाद । 5
- (ख) अपठित अनुच्छेदों पर संस्कृत में प्रश्नोत्तर । 5
- (ग) चित्र पर आधारित संस्कृत में वाक्य रचना/संस्कृत में अनुच्छेद लेखन । 5
- (घ) अनौपचारिक पत्र । (लगभग 70 शब्दों में) 5

## टिप्पणी

उपरि लिखित के लिए उदाहरण यथासंभव पाठ्यपुस्तक में आए प्रयोगों से लेना उपादेय होगा।

## शिक्षण विधि एवं तकनीक

इस स्तर पर संस्कृत शिक्षण को सुगम, सुग्राह्य तथा रोचक बनाने के लिए निर्दिष्ट बिन्दुओं को शिक्षण का आधार बनाया जाना चाहिए। शिक्षण करते हुए संस्कृत अध्यापक इस बात का ध्यान रखें कि उनका शिक्षण छात्रकेन्द्रित एवं क्रियापरक हों।

1. अध्यापकों को कक्षा में यथासंभव संस्कृतमय वातावरण बनाये रखने का प्रयास करना चाहिए। एतदर्थ विद्यार्थियों के साथ दैनिक व्यवहार में आने वाले वाक्यों का संस्कृत में मौखिक अभ्यास करवाएं।
2. विद्यार्थियों से समय-समय पर संस्कृत में प्रश्न किए जायें तथा उन्हें संस्कृत में ही उत्तर देने के लिये प्रोत्साहित किया जाय।
3. अध्यापन प्रभावशाली बनाने तथा विद्यार्थियों की संस्कृत अध्ययन में रुचि बढ़ाने के लिए दृश्य एवं श्रव्य उपकरणों तथा संगणक (कम्प्यूटर) आदि का उपयोग किया जाय।
4. गद्य, पद्य, नाटक तथा कहानी आदि को सिखाने के लिए यथासंभव प्रत्यक्ष विधि का प्रयोग किया जाना चाहिए।

## कक्षा—क्रियाकलाप

विद्यार्थियों में संस्कृत भाषा का प्रायोगिक एवं व्यावहारिक ज्ञान प्रदान करने हेतु वर्ग—शिक्षण के अतिरिक्त निम्नांकित क्रिया—कलाप पर विशेष ध्यान देना उचित होगा—

- अध्यापक कक्षा में संस्कृत पाठों को पढ़कर विद्यार्थियों को सुनाएं तथा यथासंभव उनसे भी एक-एक करके तथा सामूहिक रूप से अनुवाचन कराएं।
- अध्यापक कक्षा में पद्य—पाठों को सस्वर पढ़कर विद्यार्थियों को सुनाएं तथा अनुवाचन कराएं।
- नाट्यांशों को पढ़ते समय अध्यापक वाचिक अभिनय करें तथा विद्यार्थियों से भी वाचिक अभिनय करते हुए पाठ पढ़वाएं।
- अध्यापक कक्षा में संस्कृत कहानी सुनाएं तथा विद्यार्थियों को भी कहानी सुनाने के लिए प्रेरित करें।
- संस्कृत में वार्तालाप करते हुए विद्यार्थियों को संस्कृत में वार्तालाप करने की प्रेरणा प्रदान करें।



- विद्वानों के ध्वनि मुद्रित (रिकार्डेड) आदर्श पाठों को सुनाकर शुद्ध उच्चारण एवं उचित लय, यति के साथ श्लोक—पाठ का शिक्षण किया जाए। इसके अतिरिक्त सी.डी. रोम (C.D. Rom) का प्रयोग करते हुए अध्यापन को रुचिकर बनाने का प्रयास किया जाय।
- कक्षा में श्लोकपाठ एवं अन्त्याक्षरी कार्यक्रमों को भी कराया जा सकता है।

## मूल्यांकन

पाठ्यक्रम में निर्धारित उद्देश्यों के अनुरूप 80 प्रतिशत लिखित तथा 20 प्रतिशत मौखिक परीक्षा की जानी चाहिए। इसके अतिरिक्त समय-समय पर इकाई परीक्षा (यूनिट परीक्षा) द्वारा विद्यार्थियों की विषयगत त्रुटियों को संशोधित करने का प्रयास किया जाना चाहिए।

- विद्यालय के विभिन्न समारोहों के अवसर पर श्लोक—पाठ, संवाद तथा अन्य क्रिया—कलापों का मूल्यांकन किया जाए।
- विद्यालय में विभिन्न समारोहों के आयोजनों के माध्यम से विद्यार्थियों को संस्कृत में वार्तालाप, संवाद तथा नाट्य—प्रयोग करने का अवसर प्रदान कर उनका मूल्यांकन किया जाय।



# संस्कृत (ऐच्छिक)

संस्कृत पाठ्यक्रम (ऐच्छिक)

कक्षा XI-XII

## भूमिका

संस्कृत विश्व की एक प्राचीनतम भाषा है। यह अधिकांश भारतीय भाषाओं की जननी एवं सम्पोषिका रही है। भारतीय संस्कृति, धर्म, दर्शन, अध्यात्म, इतिहास, पुराण, भूगोल, राजनीति एवं विज्ञान की मूल स्रोत संस्कृत भाषा आज भी भारत का गौरव एवं प्राण है तथा जीवन्त रचनात्मकता का साक्ष्य भी प्रस्तुत करती है। राष्ट्रीय भावात्मक एकता एवं अन्तर्राष्ट्रीयता की भावना के विकास में संस्कृत का योगदान विशिष्ट रहा है। विद्यार्थियों के सर्वांगीण विकास हेतु मानवीय मूल्यों की उदात्त व्याख्या कर 'वसुधैव कुटुम्बकम्' के आदर्श की स्थापना करना संस्कृत की एक अनुपम देन है। अतः राष्ट्र की इस अमूल्य-निधि को विद्यार्थियों के समक्ष प्रस्तुत करना आवश्यक है।

संस्कृत को केवल एक प्राचीन भाषा मानना ही पर्याप्त नहीं है। आधुनिक संस्कृत अन्य भाषाओं की तरह भारतीय बहुभाषिकता की एक अभिन्न अंग भी है। जिस प्रकार संस्कृत अन्य भाषाओं के सीखने व बौद्धिक विकास में एक बहुभाषी कक्षा में सहायक सिद्ध होती है, ठीक उसी प्रकार संस्कृत सीखने में कक्षा में सहज उपलब्ध बहुभाषिकता का उपयोग किया जा सकता है। बहुभाषिकता के प्रति आदर एक ऐसा सशक्त दृष्टिकोण है, जिससे भाषा-शिक्षण की पूरी विधि ही बदल सकती है। श्रवण, भाषण, पठन एवं लेखन भाषा-कौशल का विकास पाठों पर ही आधारित होगा। यह आवश्यक है कि विद्यार्थियों के लिए पाठ समग्र रूप में सार्थक हो, जिससे भाषा के सभी तत्व सहज ग्राह्य हो जायेंगे।

इसी दृष्टिकोण से वरिष्ठ माध्यमिक स्तर पर (कक्षा XI-XII) ऐच्छिक विषय के रूप में संस्कृत के पठन-पाठन का प्रावधान किया गया है।

## सामान्य उद्देश्य

इस स्तर पर संस्कृत के पठन-पाठन के उद्देश्य निम्नांकित हैं :

- विद्यार्थियों में संस्कृत साहित्य के प्रति अभिरुचि उत्पन्न करना तथा उसकी विविध विधाओं से परिचित कराना।
- संस्कृत भाषा के सामान्य ज्ञान को सुदृढ़ करना तथा उसकी प्रकृति से विद्यार्थियों को परिचित कराना।
- संस्कृत भाषा के विविध प्रयुक्तियों एवं शैलियों से विद्यार्थियों को अवगत कराना ताकि वे यथावसर उनका उपयोग कर सकें।
- अपने विचारों को संस्कृत भाषा में अभिव्यक्त करने की क्षमता विकसित कर सकना।



- विद्यार्थियों में राष्ट्रीय, सांस्कृतिक एवं सामाजिक चेतना जागृत करना।
- विद्यार्थियों में नैतिक मूल्यों का विकास करना।
- व्यक्तित्व के सर्वांगीण विकास हेतु विद्यार्थियों को प्रेरित करना।

## विशिष्ट उद्देश्य

### श्रवण

- संस्कृत के सरल पद्यों, गद्यांशों एवं नाट्यांशों को सुनकर तथा अभिनय को देखकर अर्थग्रहण करते हुए रसास्वादन कर सकना।

### भाषण

- सरल प्रश्नों के संस्कृत में उत्तर देने की क्षमता उत्पन्न कर सकना।
- पठित विषयों पर सरल संस्कृत में अपने विचार व्यक्त कर सकना।
- संस्कृत सुभाषितों को कण्ठस्थ कर सस्वर सुना सकना।

### वाचन (पठन)

- संस्कृत पद्यों का शुद्ध उच्चारण (लघु, गुरु, यति आदि का समुचित पालन) करते हुए, सस्वर पाठ करने की क्षमता उत्पन्न करना।
- संस्कृत गद्य का शुद्ध उच्चारण करते हुए वाचन की क्षमता उत्पन्न करना।
- संकलित नाट्यांशों का अभिनय पूर्वक वाचन करना।

### लेखन

- संकलित नाट्यांशों का अभिनय पूर्वक वाचन करना।
- पठित विषयों पर सरल संस्कृत में अपना विचार लिख सकना।
- लोक का अन्वय एवं भावार्थ लिखने की क्षमता उत्पन्न करना।
- गद्यांशों, पद्यों एवं नाट्यांशों को सुनकर शुद्ध लिखने की क्षमता विकसित करना।

### चिंतन

- विद्यार्थियों में संस्कृत साहित्य में उपलब्ध राष्ट्रीय भावनाओं तथा मानवीय मूल्यों का विकास करने के लिए प्रेरित करना।
- संस्कृत ग्रन्थों में उपलब्ध जीवनोपयोगी विविध ज्ञान-भण्डार से परिचित कराना जिससे विद्यार्थियों में मौलिक चिन्तन की प्रवृत्ति का विकास हो सके तथा प्राप्त ज्ञान को वे अपने मौलिक चिन्तन द्वारा आधुनिक जीवन के सन्दर्भों से जोड़ सकें।

### पाठ्य सामग्री

उपर्युक्त उद्देश्यों की पूर्ति के लिए कक्षा 11 तथा 12 के लिए निम्नलिखित पाठ्यसामग्री होगी :

1. संस्कृत पाठ्यपुस्तक
2. व्याकरण, छन्द एवं अलंकार की पुस्तक
3. संस्कृत साहित्य परिचय
4. संस्कृत लेखन (पत्र, लघुकथा, अनुच्छेद आदि)



कक्षा 11 तथा 12 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित एक-एक पाठ्यपुस्तक होगी जिसमें 10-10 पाठ होंगे जिसमें संस्कृत साहित्य की प्रमुख विधाओं—गद्य, पद्य, नाटक का समावेश होगा। व्याकरण, छन्द एवं अलंकार के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित एक पृथक् पुस्तक होगी। संस्कृत साहित्य के इतिहास के लिए एक पुस्तक एन.सी.ई.आर.टी. द्वारा प्रकाशित होगी जिसमें संस्कृत वाङ्मय की विविध विधाओं एवं रचनाकारों तथा कृतियों के विषय में जानकारी उपलब्ध होगी। प्रत्येक पाठ्य-पुस्तक में लगभग 20 प्रतिशत अन्य भाषाओं का संस्कृत अनुवाद तथा 30 प्रतिशत नवीन मौलिक साहित्य का समावेश किया जाना चाहिए।

## विषय-वस्तु

- पाठ्यपुस्तक में पाठों का संकलन करते समय इस बात का ध्यान रखा जाएगा कि भारत की राष्ट्रीय अखण्डता, भावात्मक एकता तथा विश्वसंस्कृति के विकास में संस्कृत के योगदान, जीवन के विविध सन्दर्भ, केन्द्रिक घटक, नागरिकों के मूल कर्तव्य तथा जीवन मूल्यों का यथासंभव समावेश हो सके।
- पाठों का संकलन करते समय दोनों कक्षाओं की संस्कृत पाठ्यपुस्तकों में गद्य, पद्य एवं नाटक इन तीनों विधाओं का प्रतिनिधित्व होगा।
- संकलित पाठ्यांश सरल, रोचक तथा मानवीय मूल्यों पर आधारित होंगे।

माध्यमिक  
तथा  
उच्च माध्यमिक  
कक्षाओं  
के लिए  
पाठ्यक्रम

190

**XI**  
कक्षा—XI

पूर्णांक—100

## अंक—विभाजन

1. पाठ्यपुस्तक	40
2. लेखक तथा कृति परिचय	10
3. व्याकरण	30
4. संस्कृत लेखन अनुवाद तथा पत्र	10
5. अपठित गद्यांश तथा लघु कथा-लेखन	10
(क) पाठ्यांश: निर्धारित पाठ्यपुस्तक (परीक्षा में इन्हीं अंशों से सरलार्थ, सप्रसंग व्याख्या, कथासारांश, प्रश्नोत्तर आदि पूछे जाएंगे।)	40
निर्धारित पाठ्यपुस्तक: कक्षा 11 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित 'संस्कृत पाठ्यपुस्तक'।	
(ख) लेखक तथा कृति परिचय पाठ्यपुस्तक में संकलित पाठों के रचयिताओं एवं ग्रन्थों का संक्षिप्त परिचय (हिन्दी/मातृ भाषा में)।	10
(ग) व्याकरण	30
शब्दरूप	5
अजन्त — (पुल्लिंग) बालक, मुनि, भानु, पितृ, भ्रातृ (स्त्रीलिंग) लता, मति, धेनु, मातृ (नपुंसकलिंग) फल, वारि, मधु	



सर्वनाम — तत्, एतत्, किम्, — तीनों लिंगों में, अस्मद्, युष्मद्।  
संख्यावाची — एक, द्वि, त्रि, चतुर, — तीनों लिंगों में।

### धातुरूप

भू, पठ्, पा (पानार्थक पिब्) गम्, खाद्, स्म, पच्, अस्, कृ, शक्, प्रच्छ् (पृच्छ्),  
पत्, नश्, कथ्, चुर, परस्मैपदी पांचों लकारों में। (लट्, लृट्, लङ्, लोट्, विधिलिङ्)  
सेव्, लभ्, वृध्, वृत्, रुच्, जन्, (आत्मनेपदी) पांचों लकारों में।

### कृदन्त प्रत्यय

क्त्वा, ल्यप्, तुमुन्, क्त, क्तवत्, शतृ, शानच्, तव्यत्, अनीयर्, क्तिन्, ण्वुल्, तृच् ल्युट्।

### तद्धित प्रत्यय

त्व, तल्, त्रल्, मतुप्, ठक्, टाप्, डीप्,

### अव्यय

पुनः, उच्चैः, नीचैः, शनैः, अधः, चिरम्, नूनम्, पुरा, खलु, मुहुः, भूयः,  
ह्यः, वः, अद्य, अधुना, तूष्णीम्, कुत्र, उपरि, मा, न, च।

### सन्धि

स्वर — दीर्घ, गुण, वृद्धि, यण्, अयादि।

व्यंजन — चुत्व, जश्त्व, ष्टुत्व, च आगम।

विसर्ग — सत्व, भात्व, णत्व, उत्त्व, रूत्व, लोप।

अनुशंसित पाठ्यपुस्तक: कक्षा 11 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित व्याकरणसौरभम्  
(संशोधित संस्करण)

### (घ) संस्कृत लेखन, अनुवाद तथा पत्र

(i) अनुवाद कारकों पर आधारित जिनमें कर्त्ता-क्रिया की अन्विति परिलक्षित हो।

(ii) पत्र— प्रधानाचार्य/अध्यापक को प्रार्थना पत्र/पिता, भाई, मित्र को पत्र/दीपावली,  
जन्मदिन आदि पर वर्धापन पत्र।

### (ङ) अपठित गद्यांश

संस्कृत में प्रश्नोत्तर राष्ट्रीय, मानवीय एवं नैतिक मूल्यों पर आधारित होगा।

(इसमें उपयुक्त शीर्षक, एक पद में उत्तर, एक वाक्य में उत्तर, विशेषण-विशेष्य की  
अन्विति, विलोम शब्द, कारक-प्रयोग आदि प्रश्न पूछे जाएंगे)।

### (च) लघुकथा लेखन (संस्कृत में)

(प्रदत्त शब्दसूची की सहायता से रिक्तस्थानपूर्ति द्वारा)

अथवा

### अनुच्छेद लेखन (संस्कृत में)

(समकालीन जीवन से जुड़े विषयों पर।)



## अंक—विभाजन

1. पाठ्यपुस्तक 40
2. संस्कृत साहित्य का इतिहास 20
  - (क) चारों वेद तथा प्रमुख उपनिषद् (सामान्य परिचय), रामायण, महाभारत, गीता।
  - (ख) संस्कृत साहित्य परिचय—कवि, नाटककार, पद्य, गद्य—नाटक।
3. छन्द 10
4. अलंकार 10
5. समास 5
6. संस्कृत के लघुवाक्यों में कारकों का प्रयोग 5
7. संस्कृत लेखन, लघु निबन्ध 10
  - (क) पाठ्यांश — निर्धारित पाठ्यपुस्तक 40
 

(परीक्षा में इन्हीं अंशों से सरलार्थ, सप्रसंग—व्याख्या, कथासारांश, प्रश्नोत्तर आदि पूछे जाएंगे)।

**निर्धारित पाठ्यपुस्तक:** कक्षा 12 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित *संस्कृत पाठ्य पुस्तक*।
  - (ख) संस्कृत साहित्य का इतिहास 20
 

चारों वेद, उपनिषद्, रामायण, महाभारत, गीता का परिचयात्मक ज्ञान। गद्यकाव्यों एवं नाटकों का परिचयात्मक ज्ञान।

**निर्धारित पाठ्यपुस्तक:** एन.सी.ई.आर.टी. द्वारा प्रकाशित *'संस्कृत साहित्य परिचय'* (संशोधित संस्करण)।
  - (ग) छन्द 10
 

(लघु, गुरु, गण, यति का प्रयोगात्मक ज्ञान)।

अनुष्टुप् इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति, वंशस्थ, शार्दूलविक्रीडित, वसन्ततिलका, मालिनी, शिखरिणी, मन्दाक्रान्ता।

(सभी छन्दों का संस्कृत में लक्षण देकर सोदाहरण लघु, गुरु, मात्रा लगाकर स्पष्ट करना)
  - (घ) अलंकार 10
 

अनुप्रास, उपमा, यमक, श्लेष, रूपक, उत्प्रेक्षा, अर्थान्तरन्यास, अतिशयोक्ति, व्याजस्तुति और अन्योक्ति।

(अलंकारों की परिभाषा देकर सोदाहरण परिचय)
  - (ङ) समास: (सभी समासों का सामान्य परिचय) 5
 

अव्ययीभाव, तत्पुरुष, कर्मधारय, द्वन्द्व, द्विगु, बहुव्रीहि।

    - (i) समस्तपदों का विग्रह, विग्रह किए गए पदों का समस्तपद बनाना।
    - (ii) समासों के नाम से परिचित कराना।



### (च) लघु वाक्यों में कारकों का प्रयोग

5

(i) कारकों का नियमानुसार वाक्यों में प्रयोग करना।

(ii) उपपद विभक्तियों का वाक्यों में प्रयोग।

निर्धारित पाठ्यपुस्तक: छन्द, अलंकार, समास और कारक के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित व्याकरण सौरभम् (संशोधित संस्करण)।

### (छ) संस्कृत-लेखन (लघु निबन्ध) (10-15 वाक्य)

10

विषय-

(i) विद्यार्थी के दैनिक जीवन से सम्बन्धित।

(ii) संस्कृत तथा मानवमूल्यों पर आधारित।

(iii) वार्षिकोत्सव, पुस्तकालय, महापुरुष-जीवन-वृत्तांतादि।

(iv) संस्कृत के प्रमुख ग्रन्थों (रामायण, महाभारत, गीतादि) तथा ग्रन्थकारों (वाल्मीकि, कालिदास, भर्तृहरि आदि) से सम्बन्धित।

(v) पर्यावरण से सम्बन्धित विषयों पर।

(vi) सामाजिक समता, नवीन समाज चेतना।

(vii) राष्ट्रीय गतिविधियों पर आधारित।

### शिक्षण-विधि एवं तकनीक

इस स्तर पर संस्कृत शिक्षण को प्रभावी बनाने के लिए अध्यापक छात्रकेन्द्रित एवं क्रियात्मक विधि का आश्रयण करेंगे जिससे विद्यार्थियों में अपेक्षित भाषा कौशलों (श्रवण, भाषण, पठन, लेखन एवं चिंतन) का समुचित विकास हो सके। साथ ही उनमें संस्कृत साहित्य की विविध विधाओं के रसास्वादन की क्षमता विकसित हो सके। अध्यापकों एवं विद्यार्थियों द्वारा कक्षा में संस्कृत भाषा का अधिकाधिक व्यवहार वांछनीय है।

### कक्षा-क्रियाकलाप

संस्कृत-शिक्षण को रोचक एवं प्रभावी बनाने के उद्देश्य से निम्नलिखित कक्षा-क्रियाकलाप सुझाए जाते हैं, जो अध्यापकों के निदर्शन मात्र के लिए हैं :

- पद्य पाठों को पढ़ाते समय अध्यापक उनका सस्वर एवं शुद्ध वाचन करें तथा विद्यार्थियों से अनुवाचन कराएं (व्यक्तिगत एवं सामूहिक)
- नाट्यांश के पाठों का यथासंभव अभिनय द्वारा अध्यापन को रोचक बनाया जाए
- गद्य पाठों का शुद्ध एवं विद्यार्थियों द्वारा अनुवाचन कराना अपेक्षित है, जिसमें वे उचित गतिपूर्वक किसी भी गद्यांश को पढ़ सकें तथा पठित शब्दों का आत्मविश्वास के साथ प्रयोग कर सकें।

193

माध्यमिक

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कक्षाओं

के लिए

पाठ्यक्रम



- कक्षा 11-12 के पाठ साहित्यिक ग्रन्थों से संकलित हैं। अतएव उनमें प्रयुक्त अलंकारों एवं छन्दों को पाठ के साथ ही विद्यार्थियों को समझाएं तथा उनका अभ्यास कराएं।
- कक्षा 11-12 के स्तर पर संस्कृत पाठ्यपुस्तक का उद्देश्य संस्कृत साहित्य की विविध विधाओं से विद्यार्थियों को अवगत कराना है। अतएव पाठ से सम्बद्ध विधा (गद्य/पद्य/नाटक) एवं ग्रन्थ तथा ग्रन्थकार आदि का सांगोपांग परिचय अध्यापक विद्यार्थियों को कराएं।
- व्याकरण के निर्धारित अंशों का यथासंभव अभ्यास पाठ पढ़ाते समय विद्यार्थियों से कराया जाए, ताकि संस्कृत भाषा के शुद्ध प्रयोग में विद्यार्थी दक्ष हो सकें।
- इस स्तर पर व्याकरण के सिद्धान्त पक्ष की अपेक्षा इसके व्यवहार पक्ष/प्रयोग पक्ष (अनुप्रयुक्त व्याकरण) पर अधिक बल दें।
- व्याकरण शिक्षण को यथासंभव विद्यार्थियों के अभिनय के द्वारा रोचक बनाने का प्रयास किया जाए, ताकि उनमें नीरसता न हो।
- लोकोच्चारण, अन्त्याक्षरी, भाषण, अभिनय आदि प्रतियोगिताओं का समय-समय पर आयोजन कराएं।

### मूल्यांकन

- पाठ्यक्रम में निर्धारित पाठ्यपुस्तक, व्याकरण, छन्द, अलंकार एवं संस्कृत साहित्य का इतिहास इत्यादि पाठ्य-सामग्रियों का मूल्यांकन लिखित 80 प्रतिशत एवं मौखिक 20 प्रतिशत किया जाना वांछनीय है। वार्षिक परीक्षा के अतिरिक्त प्रत्येक सत्र के अन्त में सत्रीय परीक्षा अपेक्षित है जिससे विद्यार्थियों की विषयगत त्रुटियों को जानकर अध्यापक सुधारात्मक अध्यापन द्वारा यथासमय उन्हें दूर कर सकें।
- मूल्यांकन के प्रश्न विविध प्रकार के हों जैसे – वस्तुनिष्ठ, (अतिलघूत्तरात्मक तथा लघूत्तरात्मक) एवं निबन्धात्मक।
- ज्ञान, अर्थग्रहण और अभिव्यक्ति के मूल्यांकन की दृष्टि से प्रश्न होने अपेक्षित हैं।
- अध्यापकों द्वारा विद्यार्थियों का सतत मूल्यांकन अध्यापन के साथ ही इस प्रकार किया जाना चाहिए कि वह परीक्षा में उत्तीर्ण अथवा अनुत्तीर्ण होने का साधन मात्र न होकर शिक्षण-अधिगम की प्रक्रिया का अभिन्न अंग हो सके।
- भाषा-कौशलों के समुचित विकास के लिए, विशेषतः श्रवण एवं भाषण कौशलों के लिए, अध्यापक कक्षा में मौखिक मूल्यांकन पर बल दें।
- अध्यापक अध्यापन के उपरान्त यूनिट वाइज मूल्यांकन समय-समय पर करता रहे, ताकि उनके द्वारा अपनायी गयी शिक्षण-विधि एवं प्रयुक्त पाठ्यसामग्री की उपयुक्तता का बोध हो सके।



# संस्कृत ( ऐच्छिक )

संस्कृत पाठ्यक्रम (ऐच्छिक)

कक्षा XI-XII (उच्च माध्यमिक स्तर)

(विज्ञान एवं वाणिज्य के विद्यार्थियों के लिए)

## भूमिका

संस्कृत भाषा प्राचीन काल से ही भारतीय संस्कृति की अक्षुण्ण परम्परा का आधार एवं व्यापक शिक्षा व्यवस्था की संवाहिका रही है। इसी का परिणाम है कि वैदिक काल से ही संस्कृत में ललित साहित्य के साथ-साथ शास्त्रों का विकास हुआ। तभी से हमें वेद-वेदांगों के साथ-साथ गणित, रसायनशास्त्र, भौतिकशास्त्र, वास्तुशास्त्र, रत्न-विज्ञान, आयुर्वेद, खगोल-विज्ञान, अर्थशास्त्र आदि वैज्ञानिक विषयों के अध्ययन-अध्यापन की परम्परा मिलती है। संस्कृत में अद्यतन चिन्तन और वैज्ञानिक साहित्य की परम्परा आज भी जारी है। आधुनिक शिक्षा व्यवस्था में वरिष्ठ माध्यमिक स्तर पर संस्कृत शिक्षण सामान्यतः कला वर्ग तक सीमित हो गया है। फलतः विज्ञान और वाणिज्य के विद्यार्थी संस्कृत-ज्ञान-विज्ञान की परम्परा से वंचित रह जाते हैं। अतः आवश्यक है कि सभी भारतीय विद्यार्थियों को संस्कृत की व्यापक वैज्ञानिक चिन्तन परम्परा से परिचित कराया जाए। +2 स्तर (कक्षा 11-12) पर विज्ञान और वाणिज्य के विद्यार्थियों के लिए ऐसा पाठ्यक्रम विकसित किया जाए जिससे वे अपने विषय के अनुरूप संस्कृत भाषा का कार्यसाधक ज्ञान प्राप्त कर सकें। अपने विषयों से सम्बद्ध संस्कृत ग्रंथों का परिचय प्राप्त कर उन ग्रंथों में उपलब्ध मौलिक वैज्ञानिक चिन्तन से परिचित हो सकें। इस स्तर पर विद्यार्थियों की आवश्यकता को ध्यान में रखते हुए विकसित संस्कृत के इस विशेष पाठ्यक्रम के शैक्षिक उद्देश्यों को निम्नलिखित रूप में परिगणित किया जा रहा है :

## सामान्य उद्देश्य

- संस्कृत भाषा का व्यावहारिक ज्ञान प्राप्त कराना।
- विज्ञान और प्रौद्योगिकी के क्षेत्र में प्राचीन मनीषियों (आर्यभट, चाणक्य एवं वराहमिहिर आदि) के भारतीय मौलिक चिन्तन एवं विशिष्ट योगदान से विद्यार्थियों को परिचित कराना एवं विद्यार्थियों में राष्ट्रीय गौरव की भावना का विकास करना।
- विश्व सभ्यता व संस्कृति के विकास में संस्कृत वाङ्मय के योगदान से परिचित कराना।
- भारतीय वैज्ञानिक तथा वाणिज्यिक परम्परा के परिचय द्वारा विद्यार्थियों में तद्विषयक मौलिक चिन्तन का विकास करना।
- संस्कृत वाङ्मय में निहित मानवीय मूल्यों के परिप्रेक्ष्य में वैज्ञानिक एवं वाणिज्यिक प्रगति के प्रति विद्यार्थियों में समन्वयात्मक एवं सकारात्मक दृष्टिकोण विकसित करना।



## विशिष्ट उद्देश्य

- विद्यार्थियों में स्तर के अनुरूप संस्कृत भाषा की व्यावहारिक योग्यता उत्पन्न करना।
- विद्यार्थियों में संस्कृत के श्रवण, भाषण, पठन और लेखन भाषा-कौशलों को विकसित कराना।
- विद्यार्थियों को संस्कृत वाङ्मय में निहित भारतीय वैज्ञानिक तथा वाणिज्यिक शब्दावली एवं शैली से परिचित कराना।
- संस्कृत के मूल वैज्ञानिक तथा वाणिज्यिक पाठ्यांशों का अपनी भाषा में रूपान्तरण करने की क्षमता उत्पन्न करना।
- निर्धारित पाठ्यसामग्री पर आधारित प्रश्नों के उत्तर संस्कृत में देने की क्षमता उत्पन्न करना।
- सम्बद्ध विषयों के साथ पठित सामग्री की तुलना कर अपने मौलिक चिंतन द्वारा उसे आधुनिक संदर्भों से जोड़ने की क्षमता उत्पन्न करना।
- संस्कृत वाङ्मय में निहित राष्ट्रीय भावनाओं तथा मानवमूल्यों का विकास करना।
- संस्कृत वाङ्मय के वैज्ञानिक तथा वाणिज्यिक ज्ञान की समीक्षात्मक सराहना करने की क्षमता उत्पन्न कर सकना।

## स्तरांत योग्यताएँ

इस पाठ्यक्रम में कक्षा 11-12 उत्तीर्ण होने पर विद्यार्थियों में निम्नलिखित स्तरांत योग्यताएँ विकसित होंगी:

- संस्कृत भाषा का व्यावहारिक ज्ञान प्राप्त होगा। (चारों भाषाकौशलों—सुनना, बोलना, पढ़ना एवं लिखना में स्तरानुरूप दक्षता होगी।)
- विज्ञान एवं प्रौद्योगिकी के क्षेत्र में प्राचीन भारतीय मनीषियों (आर्यभट, वराहमिहिर, चाणक्य आदि) के मौलिक चिन्तन एवं विशिष्ट योगदान से परिचित हो सकेगा तथा उनमें राष्ट्रीय गौरव की भावना का विकास होगा।
- संस्कृत परम्परा में सुरक्षित मानव मूल्यों (विश्वबन्धुत्व आदि) राष्ट्रीय मूल्यों (राष्ट्रीयता, देशभक्ति, विविधता में एकता, राष्ट्रीय अखण्डता आदि) तथा नैतिक मूल्यों का विद्यार्थियों में विकास हो सकेगा।
- विश्व सभ्यता एवं संस्कृति के विकास में संस्कृत वाङ्मय के योगदान से परिचित हो सकेगा।
- भारतीय वैज्ञानिक तथा वाणिज्यिक परम्परा के परिचय द्वारा विद्यार्थियों में तद्विषयक मौलिक चिन्तन का विकास हो सकेगा।

## पाठ्यक्रम एवं पाठ्यसामग्री

उपर्युक्त उद्देश्यों की पूर्ति के लिए कक्षा 11 तथा 12 के लिए निम्नलिखित पाठ्यसामग्री होगी—

1. संस्कृत पाठ्यपुस्तक
2. संस्कृत वाङ्मय में विज्ञान का इतिहास

कक्षा 11 तथा 12 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित एक-एक पाठ्यपुस्तक होगी, जिसमें 10-10 पाठ हो सकते हैं। इनका स्वरूप इस प्रकार होगा—

साहित्यिक

3 पाठ

जीवन-मूल्यपरक श्लोक

1 पाठ



## वैज्ञानिक

## वाणिज्यिक

4 पाठ

2 पाठ

- पाठ्यपुस्तक में मूल्यप्रधान श्लोक, साहित्यिक पाठ, वैज्ञानिक पाठ तथा वाणिज्यिक पाठों का समावेश होगा।
- पाठ्यपुस्तकों में पाठों का संकलन करते समय इस बात का ध्यान रखा जाएगा कि भारत की राष्ट्रीय अखण्डता, भावात्मक एकता तथा विश्वसंस्कृति के विकास में संस्कृत के योगदान, जीवन के विविध संदर्भों का यथासंभव समावेश हो सके।

## अंक-विभाजन

I. पाठ्यपुस्तक	75 अंक
(क) भाषिकतत्त्व	25 अंक
(ख) विषय वस्तु	50 अंक
II. संस्कृत वाङ्मय में विज्ञान का इतिहास	25 अंक

## शिक्षण-विधि एवं तकनीक

इस स्तर पर संस्कृत शिक्षण को प्रभावी एवं रोचक बनाने के लिए अध्यापकों द्वारा छात्र-केन्द्रित एवं क्रियात्मक विधि का आश्रयण किया जाना वांछनीय है। संस्कृत भाषा के व्यावहारिक ज्ञान में विद्यार्थियों को दक्ष बनाने के लिए संस्कृत भाषा का अधिकाधिक मौखिक व्यवहार एवं अभ्यास कराया जाना अपेक्षित है। भाषा-ज्ञान कराते समय व्याकरण को केवल व्यवहार एवं प्रयोग द्वारा विद्यार्थियों को सिखाना चाहिए जिससे वे संस्कृत भाषा के व्यवहार में दक्ष हो सकें।

## कक्षा क्रिया-कलाप

- पद्य पाठों को पढ़ाते समय अध्यापक उसका शुद्ध एवं सस्वर वाचन करें तथा विद्यार्थियों से अनुवाचन कराएं (व्यक्तिगत एवं सामूहिक)।
- गद्य पाठों का शुद्ध वाचन एवं विद्यार्थियों द्वारा अनुवाचन कराना अपेक्षित है जिससे वे आत्मविश्वासपूर्वक संस्कृत गद्यांश को उचित गति के साथ शुद्ध रूप में पढ़ सकें।
- पाठों में प्रयुक्त व्याकरण के तत्त्वों को मौखिक व्यवहार एवं प्रयोग द्वारा सहज ढंग से विद्यार्थियों को संस्कृत भाषा में दक्ष बनाने का प्रयास करें तथा इसके लिए प्रेरित करें कि विद्यार्थी परस्पर संस्कृत में वार्तालाप करें।
- कक्षा 11-12 के इस पाठ्यक्रम का उद्देश्य संस्कृत वाङ्मय में निहित प्राचीन भारतीय वैज्ञानिकों के विशिष्ट योगदान से विद्यार्थियों को अवगत कराना है। अतएव पाठों को पढ़ाते समय सम्बद्ध वैज्ञानिक विषय (आयुर्वेद, गणित, खगोलशास्त्र, भौतिकशास्त्र इत्यादि) तथा ग्रंथ एवं ग्रंथकार का सामान्य परिचय अध्यापक विद्यार्थियों को प्रस्तुत करें तथा उसके अवबोध की परीक्षा के लिए लिखित गृह कार्य दें।
- विज्ञान, प्रौद्योगिकी एवं वाणिज्यशास्त्र के क्षेत्र में प्राचीन भारतीय मनीषियों के मौलिक चिंतन एवं विशिष्ट योगदान से सम्बद्ध विषय पर कक्षा में कभी-कभी 'विवर्ज' आदि प्रतियोगिता का आयोजन करना लाभप्रद होगा।



- जीवन मूल्यों से सम्बद्ध पाठ पढ़ाते समय विद्यार्थियों में उनके व्यक्तित्व विकास के लिए समुचित प्रेरणा दें।

## मूल्यांकन

पाठ्यक्रम में निर्धारित पाठ्यपुस्तक एवं संस्कृत के वैज्ञानिक अथवा वाणिज्यिक साहित्य का इतिहास इत्यादि पाठ्य-सामग्रियों का मूल्यांकन लिखित 80 प्रतिशत एवं मौखिक 20 प्रतिशत किया जाना वांछनीय है। वार्षिक परीक्षा के अतिरिक्त प्रत्येक सत्र के अन्त में सत्रीय मूल्यांकन तथा पाठों के अध्यापन के पश्चात् इकाई परीक्षा अपेक्षित है जिससे विद्यार्थियों की विषयगत त्रुटियों को जानकर अध्यापक सुधारात्मक अध्यापन द्वारा यथासमय इन्हें दूर कर सकें।

- मूल्यांकन के प्रश्न विविध प्रकार के हों जैसे-वस्तुनिष्ठ, (अति लघूत्तरात्मक तथा लघूत्तरात्मक) एवं निबन्धात्मक।
- ज्ञान, अर्थग्रहण और अभिव्यक्ति के मूल्यांकन की दृष्टि से प्रश्न होने अपेक्षित हैं।
- अध्यापकों द्वारा विद्यार्थियों का सतत मूल्यांकन अध्यापन के साथ ही इस प्रकार किया जाना चाहिए कि वह परीक्षा में उत्तीर्ण अथवा अनुत्तीर्ण होने का साधन मात्र न होकर शिक्षण अधिगम की प्रक्रिया का अभिन्न अंग हो सके।

माध्यमिक  
तथा

उच्च माध्यमिक  
कक्षाओं  
के लिए  
पाठ्यक्रम

198



# संस्कृत (केन्द्रिक)

संस्कृत पाठ्यक्रम (केन्द्रिक)

कक्षा XI-XII

## भूमिका

संस्कृत विश्व की एक प्राचीनतम भाषा है। यह अधिकांश भारतीय भाषाओं की जननी एवं सम्पोषिका रही है। भारतीय संस्कृति, धर्म, दर्शन, अध्यात्म, इतिहास, पुराण, भूगोल, राजनीति एवं विज्ञान की मूल स्रोत संस्कृत भाषा आज भी भारत का गौरव एवं प्राण है। यह जीवन्त रचनात्मकता का साक्ष्य भी प्रस्तुत करती है। राष्ट्रीय भावात्मक एकता एवं अन्तर्राष्ट्रीयता की भावना के विकास में संस्कृत का योगदान विशिष्ट रहा है। 'वसुधैव कुटुम्बकम्' के आदर्श की स्थापना करना संस्कृत की एक अनुपम देन है। अतः राष्ट्र की इस अमूल्य निधि को विद्यार्थियों के समक्ष प्रस्तुत करना आवश्यक है।

आधुनिक संस्कृत अन्य भाषाओं की तरह भारतीय बहुभाषिकता का एक अभिन्न अंग है। जिस प्रकार संस्कृत अन्य भाषाओं के सीखने व बौद्धिक विकास में एक बहुभाषी कक्षा में सहायक सिद्ध होती है, ठीक उसी प्रकार संस्कृत सीखने में कक्षा में सहज उपलब्ध बहुभाषिकता का उपयोग किया जा सकता है।

इसी दृष्टिकोण से वरिष्ठ माध्यमिक स्तर पर कक्षा XI-XII केन्द्रिक पाठ्यक्रम के रूप में संस्कृत के पठन-पाठन का प्रावधान किया गया है।

## सामान्य उद्देश्य

इस स्तर पर संस्कृत के पठन-पाठन के उद्देश्य निम्नांकित हैं :

- संस्कृत भाषा का व्यावहारिक ज्ञान प्राप्त कराना।
- विद्यार्थियों में संस्कृत साहित्य के प्रति अभिरुचि उत्पन्न करना तथा उसकी विविध विधाओं से परिचित कराना।
- अपने विचारों को संस्कृत भाषा में अभिव्यक्त करने की क्षमता विकसित कर सकना।
- विद्यार्थियों में राष्ट्रीय, सांस्कृतिक एवं सामाजिक चेतना जागृत करना।
- विद्यार्थियों में नैतिक मूल्यों का विकास करना।
- विज्ञान एवं प्रौद्योगिकी के क्षेत्र में प्राचीन भारतीय मनीषियों के मौलिक चिंतन एवं विशिष्ट योगदान से परिचित कराना।
- संस्कृत ग्रन्थों में उपलब्ध जीवनोपयोगी विविध ज्ञान-भण्डार से परिचित कराना।



## विशिष्ट उद्देश्य

### श्रवण

- संस्कृत के सरल पद्यों, गद्यांशों एवं नाट्यांशों को सुनकर तथा अभिनय को देखकर अर्थग्रहण करते हुए रसास्वादन कर सकना।

### भाषण

- सरल प्रश्नों के संस्कृत में उत्तर देने की क्षमता उत्पन्न कर सकना।
- संस्कृत सुभाषितों को कण्ठस्थ कर सस्वर सुना सकना।

### वाचन (पठन)

- संस्कृत पद्यों का शुद्ध उच्चारण (लघु, गुरु, यति आदि का समुचित पालन) करते हुए, सस्वर पाठ करने की क्षमता उत्पन्न करना।
- संस्कृत गद्य का शुद्ध उच्चारण करते हुए वाचन की क्षमता उत्पन्न करना।
- संकलित नाट्यांशों का अभिनय पूर्वक वाचन करना।

### लेखन

- पठित विषयों पर सरल संस्कृत में अपना विचार लिख सकना।
- लोक का भावार्थ लिखने की क्षमता उत्पन्न करना।

### पाठ्य सामग्री

उपर्युक्त उद्देश्यों की पूर्ति के लिए कक्षा 11 तथा 12 के लिए निम्नलिखित पाठ्यसामग्री होगी:

1. संस्कृत पाठ्यपुस्तक
2. व्याकरण
3. संस्कृत साहित्य का इतिहास
4. संस्कृत लेखन

कक्षा 11 तथा 12 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित एक-एक पाठ्यपुस्तक होगी जिसमें 10-10 पाठ होंगे जिसमें संस्कृत साहित्य की प्रमुख विधाओं—गद्य, पद्य, नाटक का समावेश होगा। व्याकरण एवं संस्कृत साहित्य के इतिहास के लिए एक-एक पुस्तक एन.सी.ई.आर.टी. द्वारा प्रकाशित होगी।

### विषय-वस्तु

- पाठ्यपुस्तक में पाठों का संकलन करते समय इस बात का ध्यान रखा जाएगा कि भारत की राष्ट्रीय अखण्डता, भावात्मक एकता, तथा विश्वसंस्कृति के विकास में संस्कृत के योगदान, जीवन के विविध सन्दर्भ, केन्द्रिक घटक, नागरिकों के मूल कर्तव्य तथा जीवन मूल्यों का यथासंभव समावेश हो सके।
- पाठों का संकलन करते समय दोनों कक्षाओं की संस्कृत पाठ्यपुस्तकों में गद्य, पद्य एवं नाटक इन तीनों विधाओं का प्रतिनिधित्व होगा।
- संकलित पाठ्यांश सरल, रोचक तथा मानवीय मूल्यों पर आधारित होंगे।



## अंक-विभाजन

1. पाठ्यपुस्तक 40
2. संस्कृत साहित्य का इतिहास 15
3. व्याकरण 30
4. संस्कृत में वाक्य रचना, पत्र लेखन एवं अनुवाद 15

### (क) पाठ्यांश निर्धारित पाठ्यपुस्तक

(परीक्षा में इन्हीं अंशों से सरलार्थ, व्याख्या, कथासारांश, प्रश्नोत्तर आदि पूछे जाएंगे।)

**निर्धारित पाठ्यपुस्तक:** कक्षा 11 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित 'संस्कृत पाठ्यपुस्तक'।

### (ख) संस्कृत साहित्य का इतिहास

पाठ्यपुस्तक में संकलित पाठों के रचयिताओं एवं ग्रन्थों का संक्षिप्त परिचय (हिन्दी/मातृभाषा में)।

### (ग) व्याकरण

(i) स्वर और व्यंजनों का ज्ञान तथा उनके उच्चारण स्थान।

(ii) सन्धि:

स्वर: दीर्घ, गुण, वृद्धि, यण्, अयादि।

व्यंजन: चुत्व, ष्टुत्व, चर्त्व, जश्त्व, च आगम।

विसर्ग: सत्व, उत्त्व, रूत्व, लोप।

षत्व, णत्व।

(iii) शब्दरूप:

अजन्त (पुल्लिङ्ग) बालक, मुनि, भानु, पितृ, भ्रातृ 6

(स्त्रीलिङ्ग) लता, मति, नदी, धेनु, मातृ (नपुंसकलिङ्ग) फल, वारि, मधु

सर्वनाम तत्, यत्, एतत्, किम्, - तीनों लिङ्गों में, अस्मद्, युष्मद्।

संख्यावाची एक, द्वि, त्रि, चतुर्, - तीनों लिङ्गों में।

(iv) धातुरूप

भू, पठ्, पा (पानार्थक पिब्) गम्, खाद्, स्म, पच्, अस्, दा, कृ, शक्, प्रच्छ्, (पृच्छ्)

पत्, नश्, कथ्, चुर्, परस्मैपदी पांचों लकारों में। (लट्, लृट्, लङ्, लोट्, विधिलिङ्)

सेव्, लभ्, वृध्, वृत्, रुच्, जन्, (आत्मनेपदी) पांचों लकारों में।

(v) कारक: कारकों का सामान्य ज्ञान।

(vi) अव्यय: पुनः, उच्चैः, नीचैः, शनैः, अधः, चिरम्, पुरा, मुहुः, हयः, वः, अद्य, अधुना,

कुत्र, यत्र, तत्र, सर्वत्र, यदा, कदा, सर्वदा, उपरि, मा,।

**अनुशासित पाठ्यपुस्तक:** कक्षा 11 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित व्याकरणसौरभम् (संशोधित संस्करण)



(घ) संस्कृत में वाक्य रचना पत्र लेखन एवं अनुवाद

15

(i) संस्कृत में वाक्य रचना

5

(ii) अनुवाद कारकों पर आधारित जिनमें कर्त्ता-क्रिया की अन्विति परिलक्षित हो।

5

(iii) संस्कृत में पत्र लेखन/प्रार्थना पत्र

5

**XII**  
**कक्षा—XII**

**पूर्णांक—100**

**अंक—विभाजन**

1. पाठ्यपुस्तक

45

2. संस्कृत साहित्य का इतिहास

15

3. व्याकरण

30

4. संस्कृत में लघु निबन्ध

10

(क) पाठ्यांश निर्धारित पाठ्यपुस्तक

45

(परीक्षा में इन्हीं अंशों से सरलार्थ, सप्रसंग-व्याख्या, कथासारांश, प्रश्नोत्तर आदि पूछे जाएंगे)।

**निर्धारित पाठ्यपुस्तक:** कक्षा 12 के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित संस्कृत पाठ्य पुस्तक।

(ख) संस्कृत साहित्य का इतिहास

15

(i) चारों वेद तथा प्रमुख उपनिषद् (सामान्य परिचय), रामायण, महाभारत, गीता।

(ii) संस्कृत साहित्य परिचय-कवि, नाटककार, पद्य, गद्य-नाटक।

**निर्धारित पाठ्यपुस्तक:** एन.सी.ई.आर.टी. द्वारा प्रकाशित 'संस्कृत साहित्य परिचय (संशोधित संस्करण)।

(ग) व्याकरण

30

(i) सन्धि (पाठ्यपुस्तक पर आधारित)

6

(ii) समास (सभी समासों का सामान्य परिचय)

8

अव्ययीभाव, तत्पुरुष, कर्मधारय, द्वन्द्व, द्विगु, बहुव्रीहि।

समासों के नाम निर्देश सहित समस्तपदों का विग्रह, विग्रह किए गए पदों का समस्तपद बनाना।

(iii) प्रत्यय

8

कृदन्त प्रत्यय: क्त्वा, ल्यप्, तुमुन्, क्त, क्तवत्, शतृ, शानच्, तव्यत्, अनीयर्, क्तिन्, ण्वुल्, तृच् ल्युट्।

तद्धित प्रत्यय: त्व, तल्, त्रल्, मतुप्, ठक्, टाप्, डीप्,

(iv) लघु वाक्यों में कारकों का प्रयोग

8

कारकों का नियमानुसार वाक्यों में प्रयोग करना।

उपपद विभक्तियों का वाक्यों में प्रयोग।

**निर्धारित पाठ्यपुस्तक:** व्याकरण के लिए एन.सी.ई.आर.टी. द्वारा प्रकाशित व्याकरण सौरभम् (संशोधित संस्करण)।



**विषय—**

- (i) विद्यार्थी के दैनिक जीवन से सम्बन्धित।
- (ii) संस्कृत तथा मानवमूल्यों पर आधारित।
- (iii) वार्षिकोत्सव, पुस्तकालय, महापुरुष—जीवन—वृत्तादि।
- (iv) संस्कृत के प्रमुख ग्रन्थों तथा ग्रन्थकारों से सम्बन्धित।
- (v) पर्यावरण से सम्बन्धित।
- (vi) राष्ट्रीय गतिविधियों पर आधारित।

**शिक्षण—विधि एवं तकनीक**

इस स्तर पर संस्कृत शिक्षण को प्रभावी बनाने के लिए अध्यापक छात्रकेन्द्रित एवं क्रियात्मक विधि का आश्रयण करेंगे जिससे विद्यार्थियों में अपेक्षित भाषा कौशलों (श्रवण, भाषण, पठन, लेखन एवं चिंतन) का समुचित विकास हो सके। साथ ही उनमें संस्कृत साहित्य के प्रति अभिरुचि विकसित हो सके। अध्यापकों एवं विद्यार्थियों द्वारा कक्षा में संस्कृत भाषा का अधिकाधिक व्यवहार वांछनीय है।

**कक्षा—क्रियाकलाप**

संस्कृत—शिक्षण को रोचक एवं प्रभावी बनाने के उद्देश्य से निम्नलिखित कक्षा—क्रियाकलाप सुझाए जाते हैं, जो अध्यापकों के निदर्शन मात्र के लिए हैं:

- पद्य पाठों को पढ़ाते समय अध्यापक उनका सस्वर एवं शुद्ध वाचन करें तथा विद्यार्थियों से अनुवाचन कराएं (व्यक्तिगत एवं सामूहिक)
- नाट्यांश के पाठों का यथासंभव अभिनय द्वारा अध्यापन को रोचक बनाया जाए
- गद्य पाठों का शुद्ध एवं विद्यार्थियों द्वारा अनुवाचन कराना अपेक्षित है, जिसमें वे उचित गतिपूर्वक किसी भी गद्यांश को पढ़ सकें तथा पठित शब्दों का आत्मविश्वास के साथ प्रयोग कर सकें।
- कक्षा 11-12 के स्तर पर संस्कृत पाठ्यपुस्तक का उद्देश्य संस्कृत साहित्य की विविध विधाओं से विद्यार्थियों को अवगत कराना है। अतएव पाठ से सम्बद्ध विधा (गद्य/पद्य/नाटक) एवं ग्रन्थ तथा ग्रन्थकार आदि का सांगोपांग परिचय अध्यापक विद्यार्थियों को कराएं।
- व्याकरण के निर्धारित अंशों का यथासंभव अभ्यास पाठ पढ़ाते समय विद्यार्थियों से कराया जाए, ताकि संस्कृत भाषा के शुद्ध प्रयोग में विद्यार्थी दक्ष हो सकें।
- इस स्तर पर व्याकरण के सिद्धान्त पक्ष की अपेक्षा इसके व्यवहार पक्ष/प्रयोग पक्ष (अनुप्रयुक्त व्याकरण) पर अधिक बल दें।
- लोकोच्चारण, अन्त्याक्षरी, भाषण, अभिनय आदि प्रतियोगिताओं का समय-समय पर आयोजन कराएं।

**मूल्यांकन**

- पाठ्यक्रम में निर्धारित पाठ्यपुस्तक, व्याकरण एवं संस्कृत साहित्य का इतिहास इत्यादि पाठ्य—सामग्रियों का मूल्यांकन लिखित 80 प्रतिशत एवं मौखिक 20 प्रतिशत किया जाना वांछनीय है। वार्षिक परीक्षा के अतिरिक्त प्रत्येक सत्र के अन्त में सत्रीय परीक्षा अपेक्षित है जिससे विद्यार्थियों की विषयगत त्रुटियों को जानकर अध्यापक सुधारात्मक अध्यापन द्वारा यथासमय उन्हें दूर कर सकें।



- मूल्यांकन के प्रश्न विविध प्रकार के हों जैसे – वस्तुनिष्ठ, (अतिलघूत्तरात्मक तथा लघूत्तरात्मक) एवं निबन्धात्मक।
- ज्ञान, अर्थग्रहण और अभिव्यक्ति के मूल्यांकन की दृष्टि से प्रश्न होने अपेक्षित हैं।
- अध्यापकों द्वारा विद्यार्थियों का सतत मूल्यांकन अध्यापन के साथ ही इस प्रकार किया जाना चाहिए कि वह परीक्षा में उत्तीर्ण अथवा अनुत्तीर्ण होने का साधन मात्र न होकर शिक्षण-अधिगम की प्रक्रिया का अभिन्न अंग हो सके।
- भाषा-कौशलों के समुचित विकास के लिए, विशेषतः श्रवण एवं भाषण कौशलों के लिए, अध्यापक कक्षा में मौखिक मूल्यांकन पर बल दें।
- अध्यापक अध्यापन के उपरान्त यूनिट वाइज मूल्यांकन समय-समय पर करता रहे, ताकि उनके द्वारा अपनायी गयी शिक्षण-विधि एवं प्रयुक्त पाठ्यसामग्री की उपयुक्तता का बोध हो सके।

माध्यमिक

तथा

उच्च माध्यमिक

कक्षाओं

के लिए

पाठ्यक्रम

204



## زبان، زبان سیکھنے اور کثیر لسانیت کے بارے میں

### 1.0 تعارف

اس نصاب کو بنیادی طور پر زبان کی تعلیم کے لیے ایک واضح فریم ورک کی حیثیت سے تیار کیا گیا ہے۔ ہمیں امید ہے کہ مختلف ریاست، ضلع اور بعض صورتوں میں چند مختلف بلاک اپنے اپنے مقامی حالات کے پیش نظر اس کا موزوں و مناسب استعمال کر سکتے ہیں نیز اس نصاب کو بچوں کی مختلف النوع صلاحیتوں سے بھی ہم آہنگ کیا گیا ہے۔

بنی نوع انسان مختلف مقاصد کے پیش نظر زبان کا استعمال کرتے ہیں۔ یہاں تک کہ دیکھنے اور سننے کی صلاحیت سے محروم بچے بھی عام بچوں کی طرح ترسیل کے لیے بہت ہی عمدہ طریقہ استعمال کرتے ہیں۔ اس لیے یہ قطعی حیرت انگیز امر نہیں کہ زیادہ تر لوگ سمجھتے ہیں کہ زبان کے بارے میں وہ تمام چیزیں جانتے ہیں جو انھیں جاننا چاہیے۔ بلاشبہ یہ افسوس ناک امر ہے۔ زبان صرف ذرائع ترسیل ہی نہیں بلکہ ایک ایسا وسیلہ بھی ہے جس کے ذریعے بیشتر علوم حاصل کیے جاتے ہیں۔ دراصل یہ ایک ایسا نظام ہے جو بہت حد تک ہمارے گرد و پیش کی عکاسی کرتا ہے۔ نیز مختلف طریقوں سے یہ ہماری شناخت کی علامت ہوتی ہے اور انجام کار سماجی اقتدار سے اس کا گہرا تعلق ہوتا ہے۔ یہ بھی یاد رکھنا چاہیے کہ نہ صرف دوسروں سے بلکہ خود سے بھی بات کرنے کے لیے ہم زبان کا استعمال کرتے ہیں۔ دراصل خود سے بات کرنا زبان کا ایک اہم استعمال ہے۔ اگر ہم اس کا استعمال نہیں کریں گے تو پھر اپنی فکر کا اظہار کیسے کریں گے؟

ہمیں مختلف علوم مثلاً تاریخ، طبیعیات یا ریاضی کو سمجھنے کے لیے زبان کی ضرورت پڑتی ہے۔ اسی طرح خواہ فطرت کا مشاہدہ کریں یا سماج کا ہم زبان کو ہر جگہ پاتے ہیں۔ یہ زبان ہی ہے جو ہمیں بتاتی ہے کہ یہ برف ہے یا ice یا snow یا 20 سے زائد ایسے الفاظ جن کا استعمال یکساں مادہ کے لیے ہو سکتا ہے جیسا کہ اسکیمو (شمالی امریکہ کے قدیم نسل کے افراد) کرتے ہیں۔ جب کبھی کوئی طبقہ ایک الگ ریاست کی مانگ کرتا ہے تو وہ ہمیشہ زبان کا مسئلہ اٹھاتا ہے۔ ہندوستان میں بہت سے لوگوں نے آئین کے آٹھویں شیڈول میں اپنی زبانوں کو شامل کرانے کی نہایت سنجیدہ کوشش کی ہے۔ جہاں تک زبان اور قوت کے مابین رشتے کا تعلق ہے تو ہم سمجھ جانتے ہیں کہ جب ہم ایک خاص تلفظ یا رسم الخط پر زور دیتے ہیں کہ یہ 'درست' ہے، یہ 'خالص' ہے اور یہ 'معیاری' ہے تو عملاً ہم یہ کہہ رہے ہوتے ہیں کہ اگر آپ سماج میں طاقت حاصل کرنا چاہتے ہیں تو آپ کو بھی ایسا ہی کرنا پڑے گا۔

زیادہ تر بچے اسکول جانے سے پہلے نہ صرف ایک بلکہ متعدد زبانیں سیکھ جاتے ہیں اور جب کوئی بچہ پہلی بار اسکول



آتا ہے تو وہ تقریباً 5000 سے زائد الفاظ جانتا ہے۔ گویا کثیر لسانیت پسندی ہماری شناخت کی جزو ترکیبی ہے۔ یہاں تک کہ کسی دور دراز کے گاؤں میں ایک ایسا بچہ جو صرف ایک زبان جانتا ہے، اس کے پاس الفاظ کا اتنا ذخیرہ ہوتا ہے کہ وہ مناسب طریقہ سے مختلف حالات میں خود کی ترسیل کرتا ہے۔ ہمیں یہ بھی دھیان میں رکھنا چاہیے کہ متعدد موجودہ مطالعے کثیر لسانیت پسندی کے ساتھ تعلیمی ارتقاء، سماجی اعتدال پسندی، درسی کامیابی اور مختلف افکار کے مثبت رشتے کو مؤثر طریقے سے واضح کیا ہے۔

سائنسی نقطہ نظر سے تمام زبانیں بشمول ”بول چال کی زبان“، ”قبائلی“، ”مخلوط“ یا ”غیر خالص“ زبانیں یکساں ہوتی ہیں۔ گرچہ تمام زبانوں کی اپنی اپنی خصوصیات ہوتی ہیں تاہم ایک دوسرے سے مل کر ہی پروان چڑھتی ہیں۔ ایسی جماعت میں جہاں متعدد زبانیں پڑھائی جاتی ہیں ہر بچوں کی زبان کا احترام لازمی ہے اور اسے زبان کی تعلیم کے سلسلے میں بطور ایک منصوبہ کے استعمال کیا جانا چاہیے۔

## 1.1 شعبہ زبان

تمام بچے تین سال کی عمر سے قبل نہ صرف اپنی زبان کے بنیادی اور ذیلی نظام سیکھ جاتے ہیں بلکہ مناسب ڈھنگ سے ان کا استعمال بھی کرنے لگتے ہیں (یعنی بچے نہ صرف لسانیات بلکہ ترسیلی لیاقت بھی حاصل کرتے ہیں)۔ تین سالہ بچوں کے ساتھ کسی علمی موضوع پر جو اس کے درس سے متعلق ہو، بامقصد گفتگو کرنا واضح طور پر ممکن ہے۔ اس لیے ایسا لگتا ہے کہ نارمل بچے جنہیں محبت و شفقت حاصل ہوتی ہے وہ غالباً فطری زبان کے شعبے کے ساتھ پیدا ہوتے ہیں جیسا کہ چومسکی (Chomsky) نے کہا ہے۔ اگرچہ تمام زبانوں میں مختلف چیزوں کے لیے مختلف الفاظ، محاورے اور تعبیرات وغیرہ استعمال کیے جاتے ہیں تاہم یہ مختلف اجزاء پر مشتمل ہوتے ہیں مثلاً اسم، فعل اور اسم صفت یا پھر فاعل، فعل، مفعول (جیسا کہ انگریزی میں ہوتا ہے) یا مفعول، فاعل، فعل (جیسا کہ ہندی میں ہوتا ہے) یا پھر ایسے متعدد اصول و ضوابط جو مختلف زبانوں میں موجود ہوتے ہیں (1.2 میں دیکھیں)۔ فطری شعبہ زبان سے واقفیت رکھنے کے دو اہم تعلیمی نتائج ہوتے ہیں: مناسب ایکسپوزر ملنے سے بچے نئی زبان آسانی سے سیکھ لیں گے، زبان کی تعلیم دیتے وقت قواعد سے زیادہ مضمون پر توجہ دینی چاہیے۔

## 1.2 زبان بحیثیت قواعد کی پابند نظام

ماہر لسانیات کے لیے جو سائنٹفک طور پر زبان کی ساخت کا مطالعہ کرتے ہیں ان زبان کے قواعد نہایت نظریاتی ہوتے ہیں جن میں متعدد ذیلی نظام بھی شامل ہیں۔ آواز کی سطح پر دنیا کی تمام زبانوں کا صوتی آہنگ، موسیقی اور آواز کے اتار چڑھاؤ سے گہرا تعلق ہے۔ مثال کے طور پر ہندوستان کی کوئی زبان یا پھر انگریزی زبان کسی لفظ کے شروع میں تین سے زیادہ حرف صحیح کی اجازت نہیں دیتی ہے اور جب کبھی بھی تین حروف کی اجازت ہوتی ہے تو ان کا انتخاب محدود ہوتا ہے۔ پہلا



حرف صحیح 'S' دوسرا صرف 'K'، 'T' یا 'P' اور تیسرا صرف 'Y'، 'R' یا 'W' جیسا کہ ہندی میں 'Strii' (Women) یا انگریزی میں 'Screw'، 'Squash'، 'Spring'، 'Street' وغیرہ۔ اسی طرح الفاظ، جملے اور گفتگو کی سطح پر بھی زبان قواعد کی پابند ہوتی ہے۔ ان میں سے چند قواعد کا تعلق ہمارے فطری شعبہ زبان سے ہوتا ہے لیکن زیادہ تر کی تشکیل سماجی و تاریخی پس منظر میں ہوتی ہے اور ان میں وقت اور مقام سے قطع نظر سماجی و انفرادی سطح پر بہت اختلاف ہوتا ہے۔ اس قسم کے لسانی اختلافات ہمیشہ کلاس روم میں نظر آ جاتے ہیں۔ اساتذہ کو اس سے باخبر رہنا چاہیے اور جتنا ممکن ہو اسے تعمیری طور پر استعمال کرنا چاہیے۔

### 1.3 تقریر اور تحریر

تقریر اور تحریر میں بنیادی فرق یہ ہے کہ تحریری زبان کا مشاہدہ شعوری طور پر ہوتا ہے جو وقت کے ساتھ منجمد ہو جاتا ہے اور ضرورت پڑنے پر ہم اس کی جانب رجوع کر سکتے ہیں۔ جبکہ بول چال کی زبان طبعاً انتقال پذیر ہوتی ہے اور تحریری زبان کے مقابلے میں تبدیلی تیز رفتاری سے ہوتی ہے۔ اس لیے تقریری اور تحریری زبان کے مابین اختلاف کو دیکھ کر حیران نہیں ہونا چاہیے۔ زبان اور رسم الخط میں کوئی بنیادی تعلق نہیں ہوتا ہے؛ انگریزی کے بول چال کی زبان اور رومن رسم الخط یا سنسکرت کے بول چال کی زبان یا ہندی زبان اور دیوناگری رسم الخط کے مابین کوئی مقدس رشتہ نہیں ہے۔ دراصل دنیا کی ساری زبانیں معمولی تبدیلی کے ساتھ ایک رسم الخط میں لکھی جاسکتی ہیں اور ایک زبان دنیا کی تمام رسم الخط میں لکھی جاسکتی ہے۔ زبان اور رسم الخط کے مابین تعلق کا یہ شعور اہم تعلیمی نتائج کا باعث ہوتا ہے۔ جو اساتذہ اس شعور سے باخبر رہتے ہیں وہ اکثر اپنی غلطیوں کی اصلاح کر لیتے ہیں اور جدید تعلیمی طریقہ کار وضع کرنے لگتے ہیں۔

### 1.4 زبان، ادب اور جمالیات

زبان کے متعدد اعمال ہوتے ہیں جن کے بارے میں تعلیمی زبان کا منصوبہ بنانے والوں نے بہت زیادہ زبانی جمع خرچ کیا ہے۔ زبان میں دنیا کا مشاہدہ کرنے کی خصوصیت کے علاوہ مختلف افسانوی عناصر شامل ہیں۔ شاعری، نثر اور ڈراما نہ صرف ہمارے ادبی شعور کو خالص بنانے کے مؤثر ذرائع ہیں بلکہ ان سے ہماری جمالیاتی زندگی اور صلاحیت کو تقویت ملتی ہے اور لسانی صلاحیت میں مسلسل اضافہ ہوتا رہتا ہے، خصوصاً پڑھنے کا فہم اور لکھنے کا جذبہ پیدا ہوتا ہے۔ ادب میں لطیفے، طنز، خواب و خیال کی باتیں، کہانی، ہیروڈی اور تمثیل وغیرہ شامل ہوتی ہیں جن کا اظہار ہماری روزمرہ کی گفتگو میں ہوتا رہتا ہے۔

شانتی نلتین میں طلباء عموماً ٹیگور کے ساتھ ڈراما پڑھتے پھر بنگلہ میں ترجمہ کرتے، اس کے بعد اسے اسٹیج پر پیش کرنے کی تیاری کرتے اور اس طرح ڈراما اپنی تمام خصوصیات کے ساتھ لوگوں تک پہنچ جاتا۔ مارکس نے کہا ہے کہ زبان کی تعلیم کی



پالیسی افسانوی، داستانوی، مابعد الطبیعیاتی یا فصاحتی عناصر کو نظر انداز نہیں کر سکتی اور نہ ہی اس کا استعمال صرف دنیاوی فائدے حاصل کرنے کے لیے کیا جاسکتا ہے۔ انسان نہ صرف حسن کی پذیرائی کرتا ہے بلکہ اکثر ایسے قواعد و ضوابط وضع کرتا ہے جو جمالیاتی پہلو کی تعین کرتے ہیں۔ جمالیاتی پہلو کی پذیرائی زبان کی پاکیزگی اور درستگی کے بجائے لسانی قوت و تخلیق کی طرف رہنمائی کرتی ہے نیز یک طرفہ بات چیت اور جارحیت کے بجائے دوطرفہ بات چیت اور مصالحت کی راہ کو یقینی بناتی ہے۔ اس کی وجہ سے چھوٹی چھوٹی اور ناپید ہوتی زبانوں کے تئیں احترام کا جذبہ پیدا ہوتا ہے۔ کوئی طبقہ اپنی آواز کو مرنے نہیں دینا چاہتا ہے۔

### 1.5 زبان اور سماج

اگرچہ بچے فطری زبان کی صلاحیت کے ساتھ پیدا ہوتے ہیں تاہم انفرادی زبانیں خاص سماجی و تہذیبی اور سیاسی حالات کے پس منظر میں حاصل کی جاتی ہیں۔ ہر بچہ یہ سیکھتا ہے کہ کیا کہا جائے، کس سے کہا جائے اور کہاں کہا جائے۔ جیسا کہ لیٹھونے واضح کیا ہے کہ زبانیں جبلی طور پر تغیر پذیر ہوتی ہیں اور مختلف انداز بیان کو مختلف عمر کے لوگ مختلف حالات میں استعمال کرتے ہیں۔ انسان کے لسانی رویے میں تبدیلی اچانک نہیں ہوتی بلکہ یہ زبان کے نظام، ترسیل، فکر اور علم سے جڑی ہوتی ہے۔ جیسا کہ اوروین نے کہا کہ زبان کا وجود اور ترقی سماج کے بغیر ممکن نہیں ہے۔ زبان کی ترقی کا انحصار لازمی طور پر ثقافتی ورثے اور سماجی ضروریات پر ہوتا ہے تاہم مخالف انحصاریت کو بھی ہمیں نظر انداز نہیں کرنا چاہیے۔ انسانی سماج زبان کے بغیر کچھ نہیں کر سکتا کیونکہ یہ اظہار کی ترسیل اور فکر کی تشکیل کا سب سے اہم، مناسب اور فطری وسیلہ ہوتا ہے۔ یہ سمجھنا بھی اہم ہے کہ زبان غیر مسلسل نہیں ہوتی جو وقت اور جسمانی و ذہنی حالات کے ساتھ منجمد ہو جائے۔ دراصل اس میں مسلسل تبدیلی ہوتی رہتی ہے اور یہ انسانی عادات و اطوار کا ایسا تغیر پذیر نظام ہوتا ہے جسے انسان حاصل کرتا ہے اور خود کی نیز گرد و پیش کے دنیا کی وضاحت کے لیے اسے تبدیل کرتا رہتا ہے۔ زبان کو اکثر و بیشتر بطور شخص گردانا جاتا ہے اور لوگ اس کے بارے میں مختلف نظریے قائم کر لیتے ہیں۔ ہمیں زبان کے ان دونوں پہلوؤں سے باخبر رہنے کی ضرورت ہے۔

### 1.6 زبان اور شناخت

ایک شخص ایسی جماعت کے طور پر اپنے طرز عمل کی تخلیق کرتا ہے جس کے ساتھ وہ اپنی شناخت بنانا چاہتا ہے۔ دوران عمل ایسی ترسیلی صلاحیت حاصل کرتا ہے جو اسے رسمی زبان سے غیر رسمی زبان تک مسلسل آگے بڑھنے کی تلقین کرتی ہے۔ ہم اکثر دیکھتے ہیں کہ مختلف شناخت ایک دوسرے سے متصادم ہوتی ہیں۔ شناخت کا سوال خاص طور پر اقلیتوں کے حوالے سے موزوں ہوتا ہے۔ اس لیے قومی اور عالمی امن و آہنگی برقرار رکھنے کے لیے ان کی زبان اور ثقافت کے تئیں حساس رہنے کی ضرورت ہے۔



اگر زبان انفرادیت کی دریافت کرنے کے بجائے موجودہ شناخت کو قائم رکھنے کی آسانی فراہم کرتی ہے تو یہ شخصی علامت اور یادداشت برقرار رکھنے سے زیادہ اہم ہوتی ہے اور یہ ایک ایسا وسیلہ ثابت ہو سکتا ہے جو متعدد امکانات کی اتھاہ گہرائیوں میں لے جائے۔

### 1.7 زبان اور قوت

باوجود اس کے کہ تمام زبانیں نظریاتی یا ذیلی نظام کی حیثیت سے یکساں ہوتی ہیں تاہم جب کسی زبان کے ساتھ تاریخ، معاشیات، سماجیات اور سیاسیات کا رابطہ قائم ہوتا تو وہ زبان دیگر زبان سے زیادہ باوقار ہو جاتی ہے اور وہ سماجی و سیاسی قوتوں کے ساتھ منسلک ہو جاتی ہے۔ عام طور پر ایسا اس لیے ہوتا ہے کہ اس خاص زبان کو سماج کے بااثر لوگ استعمال کرتے ہیں اور اس کا شمار معیاری زبانوں میں ہونے لگتا ہے۔ تمام قواعد، لغات اور مختلف حوالہ جات اس معیاری زبان کا ہمیشہ حوالہ دینے لگتے ہیں۔ سائنسی نقطہ نظر سے معیاری زبان، خالص زبان، خاص قسم کی بولی وغیرہ میں کوئی اختلاف نہیں ہے۔ اکثر زبان کی تعریف بطور بولی کی جاتی ہے۔ علاوہ ازیں سیاسی و سماجی اور معاشی حالات کے پیش نظر قومی، دفتری اور دفتر کی معاون زبان کا فیصلہ کیا جاتا ہے جس کا استعمال تعلیم، ذرائع ابلاغ، عدالت اور نظم و نسق چلانے میں کیا جاتا ہے۔ اصولی طور پر کسی بھی زبان میں کچھ بھی کیا جاسکتا ہے بشمول سائنس، سماجی علوم اور علوم انسانی میں اعلیٰ تحقیق کی جاسکتی ہے۔ اس طرح یہ واضح ہو جانا چاہیے کہ ایسے افراد کی زبان جنہیں مکمل مراعات حاصل نہیں ہیں کبھی باختیار نہیں ہونگے جب تک مختلف حالات میں اس کے استعمال کو یقینی نہ بنایا جائے۔

### 1.8 زبان اور جنس

جنس کا مسئلہ نہ صرف نصف آبادی بلکہ پورے سماج سے تعلق رکھتا ہے۔ طویل عرصے سے زبان کے متن میں متعدد ایسے عناصر شامل کر دیے گئے ہیں جو جنسی امتیاز کے حامل ہیں۔ یہ صرف اس لیے نہیں کہ بہت سے دانشور بشمول معزز ماہر لسانیات نے خواتین کی زبان کو سطحی اور غیر اہم قرار دیتے ہوئے ’موتیوں کا ہار‘ اور ’معمولی‘ کہا ہے بلکہ لغات کے ایک اہم حصہ اور نحوی اظہار کو جنسی امتیاز کا حامل بنا دیا ہے۔ عورت اور مرد کے مابین گفتگو کے تفصیلی تجزیہ سے بھی یہ ظاہر ہوتا کہ مرد گفتگو کرنے کے لیے مختلف منصوبوں کا استعمال کرتا ہے تاکہ اپنا نقطہ نظر مسلط کر سکے۔

تذکیر یا تانیث کا جو نظریہ ہم اخذ کرتے ہیں اس کا اظہار ہمارے عادات و اطوار میں متواتر ہوتا رہتا ہے اور بعض اوقات غالباً دانستہ طور پر اس نظریے کو درسی کتابوں میں شامل کر دیا جاتا ہے۔ دراصل ’علم کی جنسی تعمیر‘ سے جو نقصانات ہوئے ہیں وہ اب واضح طور پر نظر آرہے ہیں۔ زبان بشمول تمثیل اور مرئی وسائل اس قسم کے علم کی تشکیل میں مرکزی کردار ادا کرتے ہیں۔ زبان کے اس پہلو پر فوری توجہ دینے کی ضرورت ہے۔ انتہائی اہم بات یہ ہے کہ درسی کتاب لکھنے والے



اور اساتذہ اس امر کی حوصلہ افزائی کریں کہ اطاعت شعاری جو اکثر عورتوں سے منسلک کر دی جاتی ہے سماجی و ثقافتی پیداوار ہے۔ لہذا اس نظریے کو بلاتا خیر کا لحد قرار دینے کی ضرورت ہے۔ اور عورتوں کی آواز کو درسی کتابوں اور تعلیمی منصوبوں میں مناسب مقام دینے کی ضرورت ہے۔

## 1.9 زبان کی تعلیم کا مقصد

چونکہ زیادہ تر بچے پختہ لسانی نظام کے ساتھ اسکول پہنچتے ہیں اس لیے لازمی طور پر اسکول کے نصاب میں زبان کی تعلیم کے خاص مقاصد ہونے چاہئیں۔ زبان کی تعلیم کا ایک اہم مقصد سیکھنے والوں میں پڑھنے لکھنے اور سمجھنے کی صلاحیت پیدا کرنا ہوتا ہے تاکہ وہ آزادی کے ساتھ سیکھنے کا مجاز ہو۔ ہماری کوشش بچوں کی ذہنی و لسانی اور مابعد لسانیات کے شعور کو زندہ رکھنا اور اسے فروغ دینا ہے۔ ہماری یہ بھی کوشش ہے کہ سیکھنے والوں کو شائستگی اور ترغیب کی قوت سے آراستہ کریں تاکہ وہ وقار اور صبر و تحمل کے ساتھ تمام تر سیلی تجربات کا سامنا کرنے کا اہل ہو۔

اگرچہ تعلیم کے متعدد طریقہ کار اور مواد ہوتے ہیں لیکن کلاس روم، جس میں زبان کی تعلیم دی جاتی ہے سب سے زیادہ غیر دلچسپ اور غیر آزمائشی ہوتا ہے۔ اس میں مختلف تعلیمی و اخلاقی نظریے کا غلبہ رہتا ہے۔ وہ زبان جسے بچہ پہلے سے جانتا ہے اس میں شاذ و نادر ہی کوئی ترقی نظر آتی ہے۔ ثانوی زبان جیسے انگریزی میں چھ سے دس سال کے تجربات کے بعد بھی زیادہ تر بچے بمشکل بنیادی صلاحیت حاصل کر پاتے ہیں نیز قدیم اور اجنبی زبانوں کا پورا پروگرام صرف منتخب متن کو یاد کرنے اور اسم و فعل کی گردان پر مشتمل ہوتا ہے۔ استدلالی مطالعوں (empirical studies) کی کمی نہیں ہے جو ان مشاہدات کی حمایت کرتے ہیں۔ ضرورت اس بات کی ہے کہ ہم خاص سیاق و سباق کو سمجھیں اور اس کا تجزیہ کریں، نیز خاص مقاصد کی شناخت کریں اور اس کے مطابق مناسب طریقہ کار اور مواد تیار کریں۔

ہم لوگ کافی عرصے سے زبان کی تعلیم کے مقاصد کے طور پر LSRW کے مہارت کی بات کرتے آ رہے ہیں۔ (موجودہ دور میں یکساں طور پر نقصان پہنچانے والے ترسیلی مہارت، غیر جانب دار لہجہ اور آواز کی تربیت وغیرہ کے بارے میں ہم نے بات کرنا شروع کر دیا ہے)۔ اس طرح کی مہارت پر خصوصی توجہ دینے سے مخالف نتائج سامنے آئے ہیں۔ اس پرچہ میں زبان کی صلاحیت کے سلسلے میں مزید مقدس نظریہ کی ہم گزارش کریں گے۔ تاہم جب ہم بول رہے ہیں تو ہم ساتھ ساتھ سن رہے ہیں اور جب ہم لکھ رہے ہیں تو کئی طرح سے پڑھ بھی رہے ہیں۔ اس کے علاوہ اور بھی مختلف صورتیں ہوتی ہیں (یعنی احباب ڈراما پڑھ رہے ہیں اور اسے پیش کرنے کے لیے نوٹ بھی تیار کر رہے ہیں Friends are reading a play and taking notes for its production) جس میں حرف عطف کی ساری مہارتوں کا دیگر تعلیمی صلاحیتوں کے ساتھ استعمال کیا جاتا ہے۔



کمئس اور سوین نے باہمی ذاتی ترسیل کی بنیادی مہارت (BICS) اور زبان کی اعلیٰ تعلیمی مہارت (CALP) کے مابین واضح فرق کیا ہے۔ زبان کی لیاقت جو BICS سے متعلق ہے عام طور پر ایسے حالات میں مؤثر طریقے سے پیش کرنے کی مہارت ہوتی ہے جو سیاق و سباق کے اعتبار سے پیش بہا اور آگاہی کی سطح پر سہل ہوتی ہے۔ گرد و پیش اور ہم رتبہ جماعت کے باہمی میل جول سے جو زبان وجود میں آتی ہے اس کا تعلق BICS سے ہوتا ہے۔

ایسا لگتا ہے کہ BICS کے سطح کی لیاقت تقریباً ہر زبان میں از سر نو حاصل کرنی پڑتی ہے۔ اگرچہ کثیر لسانی سماج مثلاً ہندوستانی سماج میں اسے فطری طریقے سے نہایت آسانی کے ساتھ حاصل کیا جاتا ہے۔ CALP سطح کی لیاقت کو کمزور سیاق و سباق اور مشکل حالات میں مؤثر طریقے سے پیش کرنے کی ضرورت ہوتی ہے۔ اسے عام طور پر ایسے ماحول میں حاصل کیا جاتا ہے جہاں اتالیق کی نگرانی میں زبان کی تعلیم دینے کا نظم ہوتا ہے۔ مثال کے طور پر جب ایک سکندری یا نیم سکندری اسکول کے طالب علم کو ایسے موضوع پر مضمون لکھنے کے لیے کہا جائے جس سے وہ آشنا نہ ہو یا کسی اخبار کا اداریہ پڑھنے اور اس پر تبصرہ کرنے کے لیے کہا جائے تو وہ غالباً CALP سطح کی لیاقت کا استعمال کرتا ہے۔ اکثر ایسی لیاقت ایک زبان سے دوسری زبان میں منتقل ہوتی رہتی ہے۔ ہمیں پورا یقین ہے کہ تمام بچوں کو کم از کم تین زبانوں میں CALP سطح کی لیاقت ہونے کے بعد اسکول چھوڑنا چاہیے۔ انھیں بلاشبہ کم از کم BICS کی سطح پر دیگر زبانوں کا علم بھی ہونا چاہیے۔

ہمارے کچھ مقاصد درج ذیل ہیں :

### (الف) سننے کے بعد سمجھنے کی صلاحیت :

بولنے والے کی بات سمجھنے کے لیے زبان سیکھنے والوں کو مختلف غیر فعلی جملوں کو لازمی طور پر استعمال کرنے کا اہل ہونا چاہیے۔ اس کے اندر مختلف انداز میں سننے اور سمجھنے کی صلاحیت بھی ہونی چاہیے۔ اس بات کو بھی سمجھنے کی ضرورت ہے کہ بچے کی نشو و نما کے لیے جو بنیادی آوازیں ہوتی ہیں وہ صرف ایک زبان یا انفرادی زبان کی آواز نہیں ہوتی ہے بلکہ حقیقی زندگی کی بول چال کے درمیان جو وقفہ اور سکوت ہوتا ہے وہ سب سے زیادہ اہم ہوتا ہے۔ آواز کی اپنی الگ دنیا ہوتی ہے جو صرف پکھے اور بس کی نہیں بلکہ میز اور ستار کی بھی آوازیں ہوتی ہیں۔

### (ب) فہم و فراست کے ساتھ پڑھنے کی صلاحیت

نحوی، معنوی اور صوتی نمونوں کا استعمال کرتے ہوئے پڑھنے کی عادت ڈالنی چاہیے۔ اپنے گذشتہ علم کی مدد سے اور استخراج کر کے معنی ترکیب دینے کا اہل ہونا چاہیے۔ اپنا اعتماد بڑھانا چاہیے تاکہ عبارت کو تنقیدی نظر سے پڑھ سکے اور پڑھتے وقت سوال پوچھ سکے۔ پڑھنے کی صلاحیت کو آزمانے کا بہترین ذریعہ غیر درسی عبارت کی تنقیدی فہم ہوتی ہے جو پڑھنے والوں کی علمی صلاحیت سے کم از کم ایک درجہ اوپر ہوتی ہے۔

### (ج) آسان تعبیر :

مختلف حالات میں ترسیلی مہارت کو استعمال کرنے کا اہل ہو۔ متعدد ایسے طریقہ کار ہوں جن کا انتخاب کیا



جاسکے۔ مباحثوں میں منطقی، تجزیاتی اور تخلیقی انداز سے حصہ لینے کی اہلیت رکھتا ہو۔ یہ سبھی بیک وقت ہر طرح کے LSRW کا لازمی طور پر باعث ہوگا۔

#### (د) مربوط تحریر:

تحریر کوئی میکینکی مہارت نہیں ہے۔ اس میں قواعد، الفاظ کا ذخیرہ، مضمون اور رموز و اوقاف پر قابو پانا نیز مختلف وسائل مثلاً مترادفات کے ذریعہ لغاتی تکرار کا استعمال کر کے اپنی سوچ کو مربوط انداز میں منظم کرنا شامل ہے۔ زبان سیکھنے والے کو چاہیے کہ وہ اپنی فکر کو منظم انداز سے بہ آسانی اظہار کرنے کے لیے اعتماد پیدا کرے۔ طالب علم کی حوصلہ افزائی یقیناً کی جانی چاہیے اور انھیں اپنے موضوع کا انتخاب کرنے کے لیے تربیت دی جانی چاہیے تاکہ وہ اپنے خیال کو منظم کرے اور ناظرین کو دھیان میں رکھ کر لکھے۔ یہ بھی ممکن ہے اگر اس کی تحریر کو متواتر عمل نہ کہ ماحصل کے طور پر دیکھا جائے۔ نیز اس میں متعدد رسمی و غیر رسمی حالات میں مختلف مقاصد کے لیے تحریر کو استعمال کرنے کی صلاحیت ہونی چاہیے۔

#### (ه) مختلف رجسٹر پر قابو پانا:

زبان کا استعمال کسی ایک صورت میں نہیں کیا جاتا ہے۔ اس کی بے شمار قسمیں، مختلف سائے اور ان گنت رنگ ہیں جو مختلف مقام اور حالات میں ابھر کر سامنے آتے ہیں۔ اس فرق سے جسے رجسٹر کہا جاتا ہے طالب علم کے لفظی ذخیرہ کا ایک حصہ تشکیل پاتا ہے۔ اسکوئی مضامین کے علاوہ طالب علم کو یہ صلاحیت ہونی چاہئے کہ وہ مختلف زبان جو دوسرے شعبوں میں استعمال ہوتی ہیں مثلاً میوزک، کھیل کود، فلم، باغبانی اور تعمیر وغیرہ کو سمجھے اور ان کا استعمال کرے۔

#### (و) زبان کا سائنٹفک مطالعہ:

کلاس میں زبان کی تعلیم کا جو طریقہ کار اختیار کیا جاتا ہے اور جو کام سرانجام دیے جاتے ہیں وہ ڈاٹا اکٹھا کرنے، اسکا مشاہدہ کرنے کے لیے تمام سائنٹفک عمل سے گزرنے نیز ڈاٹا کی درجہ بندی اور پھر اس کا مفروضہ تیار کرنے میں بچوں کی رہنمائی کرے۔ اس طرح لسانی طریقہ کار بچوں کی تعلیمی صلاحیت کو فروغ دینے میں اہم کردار ادا سکتا ہے۔ یہ طریقہ قواعد کے مثالی اصول و ضوابط کی تعلیم سے زیادہ بہتر ہوتا ہے۔ علاوہ ازیں خصوصاً کثیر لسانی کلاس روم میں مؤثر ہوتا ہے۔

#### (ز) تخلیقی شعور:

کلاس روم میں طالب علم کے تخلیقی اور تصوراتی شعور کو اجاگر کرنے کا بھرپور موقع دیا جانا چاہیے۔ معلم اور طالب



علم کے مابین رشتہ اور کلاس روم کے ماحول سے اعتماد پیدا ہوتا ہے جو بعد میں طالب علم کے لیے تخلیقی شعور کا استعمال کرنے میں معاون ثابت ہوتا ہے۔

## (ح) زودوسی :

ہم عصر زندگی کے مختلف پہلو، قومی ورثہ اور رنگا رنگ ثقافت سے طلباء کو روشناس کرانے کا کلاس روم ایک بہترین وسیلہ ہو سکتا ہے۔ کلاس روم اور زبان کے متن میں طلباء کو ملک و قوم اور گرد و پیش کے تئیں حساس بنانے کے لیے بہت گنجائش ہوتی ہے۔

## 1.10 چند تعلیمی تجاویز

زبان کی تعلیم حاصل کرنے سے متعلق موجودہ تحقیق نے زبان سیکھنے والوں کو مرکزی حیثیت دی ہے اور مشورہ دیا ہے کہ زبان سیکھنے والے کو اگر قابل فہم وسائل فراہم کئے جائیں تو وہ با آسانی کسی زبان کے قواعد و ضوابط کو وضع کرنے کا اہل ہو جائے گا جیسا کہ کراشین نے کہا ہے کہ وسائل کا تعین بھی ممکن ہے جب فلٹر پست ہو یعنی رجحان مثبت اور محرک مضبوط ہو۔ بلاشبہ کچھ حالات میں جہاں انگریزی بھی اجنبی زبان ہو جاتی ہے کسی حد تک قواعد سے متعلق اقدار پر مفہوم سیکھنے والے کے شعوری عکس کو متحرک کرنے میں معاون ہو سکتا ہے۔ کراشین نے واضح کیا ہے کہ جب بچوں کو اپنی تحریروں میں ترمیم و ترمیم کرنے کی مناسب آزادی اور مناسب وقت دیا جاتا ہے تو وہ اپنی تخلیق کو بہتر بنانا چاہتے ہیں۔ تعلیمی ارتقاء کے نسبتاً منظم مرحلوں پر زور دینے سے زبان کی تعلیم دینے والوں کی ہمت افزائی ہوتی ہے کہ وہ سیکھنے کے دوران غلطیوں کی نشاندہی، سیکھنے کے مرحلہ کے طور پر کرے نہ کہ مرض کے اسباب کے طور پر جن کا خاتمہ ضروری ہوتا ہے۔ تعلیم و تعلم کے شعبہ میں سیکھنے والوں، مرکزی حیثیت دینے کا اہم پہلو کی مادری زبان کا احترام کرنا ہوتا ہے۔ گورنمنٹ اور پرائیویٹ اسکول میں جس داغ کو اکثر مادری زبان سے منسلک کیا جاتا ہے اس کی مذمت کی جانی چاہیے اور مادری زبان کے تعمیری استعمال کو بڑھاوا دینا چاہیے۔



# اردو ثانوی زبان

## Guidelines and Syllabi for Urdu Second Language (Classes IX & X)

### (نویں اور دسویں جماعت)

تمہید

اردو کا شمار ہندوستان کی جدید زبانوں میں ہوتا ہے۔ لہجے کی شیرینی اور وقیع ادبی سرمائے کے سبب، بلا لحاظ مذہب و ملت یہ ہندوستان کی ایک مقبول زبان ہے۔ اگرچہ اس کا اصل ماخذ (origin) کھڑی بولی ہے لیکن اس کی تشکیل و تعمیر میں عربی، فارسی اور ترکی کے علاوہ کئی ہندوستانی بولیوں اور زبانوں کے الفاظ شامل ہیں۔ یہ ہماری مشترکہ تہذیب و تمدن کی آئینہ دار ہے اور صدیوں سے مشترکہ تہذیب و ثقافت کی بخوبی ترجمانی کر رہی ہے۔ کیونکہ اس کا خمیر کئی زبانوں سے مل کر تیار ہوا ہے۔ اس لیے ہر جماعت میں اس کی تدریس میں کثیر لسانی عمل (Multilinguality) کی کار فرمائی نہایت ضروری ہے۔

زبان کی جملہ مہارتوں مثلاً سننا، بولنا، پڑھنا، سمجھنا، لکھنا اور مختلف موقعوں پر اس کا مناسب استعمال حصول متن (Text) کے ذریعے ہی ہونا چاہیے۔ ہندوستان میں بہت سی زبانیں بولی اور سمجھی جاتی ہیں۔ جدید ہندوستانی زبانیں جنہیں آئین ہند میں تسلیم کیا گیا ہے ان میں اردو کے علاوہ سبھی زبانوں کا کوئی نہ کوئی علاقہ ہے جہاں انہیں سرکاری سطح پر استعمال کیا جاتا ہے۔ اردو کا استعمال بھی بعض علاقوں میں سرکاری سطح پر ہوتا ہے۔ اپنی شیرینی، شائستگی اور وقیع شعری اور نثری سرمائے کی وجہ سے بلا لحاظ مذہب و ملت اردو ہندوستان کی ایک مقبول زبان ہے۔ یہ پورے ہندوستان میں بولی اور سمجھی جاتی ہے۔ ملک کے مختلف علاقوں میں ایک بڑی تعداد اردو بولنے والوں کی موجود ہے لیکن نصابی کتابوں کے فراہم نہ ہونے سے انہیں دشواریوں کا سامنا کرنا پڑتا ہے۔ اس کمی کے پیش نظر ڈپارٹمنٹ آف لینگویجز (Department of Languages)، نیشنل کونسل آف ایجوکیشنل ریسرچ اینڈ ٹریننگ، نئی دہلی کی جانب سے چھٹی سے دسویں جماعت تک اردو بہ حیثیت ثانوی زبان کی تعلیم کے لیے نصابی

کتابیں پہلے ہی شائع کی جا چکی ہیں۔ اب چونکہ نئی قومی درسیات کے منصوبے کے تحت اردو کی ابتدائی تعلیم کو معیاری شکل دینے کا کام نہایت اہم ہو گیا ہے اس لیے نصاب مرتب کرتے وقت اس کا خیال رکھا گیا ہے کہ زبان سے متعلق تمام لسانی مہارتیں (Language Skills) جن کا ایک دوسرے سے گہرا تعلق ہے، ساتھ ساتھ نشوونما پاسکیں، مثلاً

(الف) سننا، سمجھنا اور بولنا

(ب) پڑھنا اور لکھنا

ثانوی زبان کے طور پر چھٹی سے دسویں جماعت تک طلباء کو اردو زبان کی تعلیم اس طرح دینی ہوگی کہ ان کا معیار زبان بتدریج بلند ہوتا جائے اور وہ مقررہ وقت کے اندر زبان دانی کا متوقع معیار حاصل کر لیں۔ اس منصوبے کے تحت ایسی کتابیں تیار کی جائیں گی جن کی مدد سے طلباء میں صحیح زبان سیکھنے کا عمل تیز تر ہو سکے۔ اس سلسلے کی ابتدائی کتابوں میں زبان کی تعلیم پر قدرے زیادہ زور دیا جائے گا۔ طلباء میں یہ لیاقت پیدا کی جائے گی کہ وہ عام فہم اور سادہ زبان میں موسموں، میلوں، کھیل تماشوں، تہواروں اور مخصوص تاریخی واقعات وغیرہ سے متعلق زبانی اور تحریری اظہار خیال کر سکیں۔ نصاب میں ایسے اسباق ہوں گے جن سے قومی یک جہتی، انسان دوستی، حب الوطنی سے متعلق جذبات پرورش پاسکیں۔ غرض یہ کہ آٹھویں جماعت کی تعلیم کے اختتام تک طلباء میں صحیح اردو بولنے، سمجھنے، پڑھنے اور لکھنے کی صلاحیت پیدا ہو جانی چاہیے۔

اردو بحیثیت ثانوی زبان کی تعلیم پرائمری درجات کے بعد یا پھر چھٹی جماعت سے اس وقت شروع کی جائیگی جب طلباء اپنی پسند کی پہلی زبان / علاقائی زبان / مادری زبان میں معتد بہ استعداد حاصل کر چکے ہوں گے۔ اردو بطور ثانوی زبان پڑھانے کا بنیادی مقصد طلباء کو ایک ایسے سماج

سکندری

اور

ہائیر سکندری

کلاسوں

کے لیے

نصاب

214



## مقاصد

میں فعال شرکت کے لیے تیار کرنا ہے جس میں ایک سے زیادہ زبانیں بولی جاتی ہیں۔ یہ طلباء کی لسانی مہارت کی ثانوی زبان ہوگی۔ اس کو اردو مادری زبان کے وہ طلباء بھی لے سکتے ہیں جو پہلی زبان کے طور پر کوئی علاقائی زبان، ہندی یا انگریزی پڑھ رہے ہیں اور وہ طلباء بھی لے سکتے ہیں جن کی مادری زبان اردو نہیں ہے اور وہ اس میں سماجی اور قومی کام کاج کی صلاحیت پیدا کرنا چاہتے ہیں۔

2. آسان کہانیوں، نظموں، لطیفوں اور مکالموں کے ذریعے مختلف اقدار سے روشناس کرانا۔

3. ریڈیو اور ٹی وی کے پروگرام اور اعلانات وغیرہ کو سننا اور سمجھنا۔

## (ب) بولنا

1. طلباء میں خود اعتمادی کے ساتھ اپنی بات کہنے کی صلاحیت پیدا کرانا۔

2. آداب گفتگو سے واقف کرانا۔

3. صحت زبان کے ساتھ روانی سے بولنے کی صلاحیت پیدا کرانا۔

4. نظمیں اور کہانیاں مناسب لہجے میں پڑھ کر سننا۔

5. گروپ پیش کے حالات اور واقعات پر اظہار کرانا۔

6. سوالات کا مکمل اور صحیح جملوں میں جواب دینے کی صلاحیت پیدا کرنا۔

## (ج) پڑھنا

طلباء سے توقع کی جاتی ہے کہ وہ اپنے پڑھنے کی درج ذیل مہارتیں حاصل کر لیں گے:

1. صحیح اعراب اور بیچ کے ساتھ پڑھنا۔

2. عبارت کو مناسب لہجہ کے ساتھ پڑھنا۔

3. روانی کے ساتھ پڑھنا۔

4. نفس مضمون کو سمجھنا۔

5. مرکزی خیال اخذ کرنا۔

6. اسباق کے ذریعے بتدریج عملی قواعد سیکھنا۔

7. اخبارات و رسائل کے مطالعے کی عادت ڈالنا۔

## (د) لکھنا

1. صحیح لکھنے کی مشق کرانا۔

2. مشاہدات و احساسات اور واقعات و تجربات کو اپنے الفاظ میں لکھنا۔

3. اسباق / نظم کا خلاصہ اپنے الفاظ میں لکھنا

1. آسان اور دلچسپ کہانی / نظم سننا اور انفرادی و اجتماعی طور پر صحیح ادائیگی کرانا۔

2. غور اور صبر و تحمل کے ساتھ سننے اور بولنے کی عادت ڈالنا۔

3. پڑھنے کی بنیادی مہارتیں پیدا کرنا مثلاً روانی اور صحیح تلفظ کے ساتھ پڑھنا سکھانا اور لکھنے کی مہارت بہم پہنچانا۔

4. سمجھ کر پڑھنے کی بہتر صلاحیت پیدا کرنا، عبارت کے مفہوم کو سمجھنا، تشریح و ترجمانی کرنا اور مرکزی خیال اخذ کرنا۔

5. طلباء کے ذخیرہ الفاظ کو بتدریج پڑھانا اور روزمرہ زندگی میں زبان کا استعمال سکھانا۔

6. اردو زبان کے ذریعے رابطہ قائم کرنے کی صلاحیت پیدا کرنا۔

7. عام انسانی قدروں، مثلاً: صفائی، حفظانِ صحت، محنت، میل جول، سلیقہ، ہمدردی، بڑوں کا احترام اور اپنی زبان سے محبت کا جذبہ پیدا کرنا۔

8. متن کی شناخت، تمیز اور مماثلت کی صلاحیت پیدا کرنا۔

9. نثری و شعری اصناف سے واقفیت بہم پہنچانا۔

## لسانی مہارتیں:

## (الف) سننا

حروف کی تمام آوازوں میں فرق کر سکرنا۔

1. ذیل کی آوازوں میں فرق کا خاص خیال رکھا جائے

ج، ز، ذ، ژ، ض، ظ، کافرق، ا، ع، کافرق، ک، ق، کافرق، خ، کھ

کافرق، ف، پھ، کافرق، س، ش، کافرق، غ، گ، کافرق، زبر اور

الف کافرق، پیش اور واء کافرق، زبر، زیر اور پیش کافرق۔



8. اردو سکھانے کے لیے بے حد ضروری ہے کہ لکھنے کی مشق بھی پڑھنے کے ساتھ ساتھ چلتی رہے۔ عام طور پر ان تمام الفاظ کو لکھنے کی صلاحیت طلباء میں ہونی چاہیے جنہیں وہ پڑھ سکتے ہوں۔

5. درسی کتاب کے اسباق پڑھ کر سوالات کے مختصر جواب تحریر کرنا۔

6. درخواست اور خط لکھنا اور مختلف فارموں کی خانہ پُر کرنا۔

## نصابی کتابیں :

زبان کی تعلیم میں درسی کتابوں کی ایک خاص اہمیت ہے۔ کسی بھی مضمون کو ثانوی زبان کے بطور سکھانے کے لیے کتاب کی اہمیت اور بھی زیادہ ہو جاتی ہے۔ اس ضمن میں نویں اور دسویں جماعتوں کی کتابیں جتنی سوچ بوجھ اور احتیاط سے تیار کی جائیں گی، طلباء اتنی ہی جلدی اس زبان کو پڑھنا، لکھنا اور سمجھنا سیکھ جائیں گے اور نظم و نثر کے فرق سے بھی واقف ہو جائیں گے اور ان کے ذخیرہ الفاظ اور کثیر لسانی الفاظ کے استعمال اور معلومات میں بھی اضافہ ہوتا رہے گا۔ اس کے علاوہ دسویں جماعت کے اختتام تک طلباء کو ادب سے ابتدائی واقفیت بہم پہنچائی جائے گی۔

نصاب کے رہنما اصولوں اور خاکے کی روشنی میں اسباق کے موضوعات و مواد کو ترتیب دیا جائے گا۔

## نصابی کتابوں کا خاکہ

1. کتاب کی زبان عام فہم ہونی چاہیے۔ جہاں تک ممکن ہو اسباق کہانی یا مکالمے کی شکل میں ہوں اور کتاب کا متن دلچسپ ہو۔
2. کتابوں میں شہر اور گاؤں دونوں سے متعلق معلومات بہم پہنچائی جائیں اس میں طلباء کی دلچسپی کا بھی خیال رکھا جائے۔
3. اسباق کے انتخاب میں جنسی مساوات کا خیال رکھا جائے۔
4. نویں جماعت میں 130 تا 150 صفحات پر مشتمل با تصویر (مصنفین اور شعراء کے اسکیچ) کتاب ہوگی۔ جس میں کل ملا کر تیس اسباق ہوں گے۔ دسویں جماعت میں 130 تا 150 صفحات پر مشتمل با تصویر کتاب ہوگی جس میں کل ملا کر تیس اسباق ہوں گے۔
6. ہر سبق کے بعد ایسے سوالات ہونے چاہئیں جن کے ذریعے پہلے پڑھے ہوئے اور نئے الفاظ کو دہرایا جاسکے۔
7. سبق میں شامل آسان جملوں کی وضع پر نئے جملے بنوائے جائیں اور بار بار مشق کرائی جائے۔

## موضوعات

جنگ آزادی، قومی یک جہتی، حب الوطنی، ماحولیات، معذوروں کے ساتھ برابر کا سلوک، جنسی مساوات، ذمہ دار شہری، آبادی کا مسئلہ، ملک کی ترقی، اخلاقیات، قدرتی مناظر، جدید ایجادات، کمپیوٹر، میلے تہوار، پالتو جانور، پہچانے ہوئے چرند پرند، صحت صفائی، انسانی حقوق و فرائض، دنیا میں ہندوستان کی اہمیت، تہذیب و تمدن، ہندوستان کی فصلیں، پھل پھول، دلچسپ کہانیاں اور حکایتیں، لوک کہانیاں، آمد و رفت کے ذرائع، قومی رہنماؤں کی سوانح عمریاں، ہندوستان کے بعض مشہور مقامات، سائنسی معلومات، ہندوستان کی ملی جلی تہذیب، دنیا کے سائنس دان، کھلاڑی، عمارات، عجائبات، ماؤنٹینز، جنگ، دستکاریاں وغیرہ۔

نوٹ : اسباق مرتب کرنے میں خیال رکھا جائے کہ طلباء میں سائنسی مزاج پیدا ہو سکے۔

## اصناف

نصابی کتاب میں بعض آسان اور دلچسپ نظمیں، ترانے اور کہانیاں، مکالمے اور خط شامل کیے جائیں۔ لطیفوں اور پہیلیوں کو شامل کرنا بھی مناسب رہے گا۔ نثر اور نظم کا تناسب یہ رہے گا یعنی:

نظمیں : سات تا دس

نثری اسباق : اٹھارہ تا بیس

ایسے اسباق شامل کیے جائیں جو طلباء میں درج ذیل اقدار پیدا کرنے میں معاون ہوں، مثلاً: میل جول، پیار محبت، ایک دوسرے کی مدد، محنت کی عادت، سچائی اور ایمانداری، ہمدردی، ایک دوسرے کی عزت، بڑوں کا احترام، ایثار، رحم دلی، صحت و صفائی، خوش اخلاقی، صبر، برداشت، کفایت شعاری، حب الوطنی، سائنسی مزاج، منصوبہ بندی۔





سکندری  
اور  
بائرسکندری  
کلاسوں  
کے لیے  
نصاب

9. عملی قواعد پر مبنی سوالات وضع کرنا۔
10. دیگر زبان کے ذریعے ترجمے کی مشق کرنا۔
11. کثیر جوابی مشقوں کی تشکیل۔
12. معروضی جانچ (Objective Test) کے لیے سوالات

### امتحان اور جانچ کا طریقہ

امتحان کا بنیادی مقصد یہ ہونا چاہیے کہ استاد اور طالب علم کو یہ احساس ہو کہ وہ جو کچھ سیکھنا اور سکھانا چاہتے تھے اس میں انھیں کس حد تک کامیابی حاصل ہوئی ہے۔ امتحانی طریقہ کار میں تحریری امتحان کے طریقہ کا چلن عام ہے۔ حالاں کہ زبان کا استعمال بول چال کی شکل میں ہماری روزمرہ کی زندگی میں سب سے زیادہ کام آتا ہے۔ اس لیے ضروری ہے کہ تدریس اور امتحان دونوں میں زبانی امتحان کو اہم مقام حاصل ہوتا کہ امتحانات میں جو غیر یقینی صورت حال پیدا ہو رہی ہے اس کا ازالہ ہو سکے۔

امتحان دراصل ایک ایسا وسیلہ ہے جس سے طلبا کو اپنی ترقی کی رفتار کا صحیح اندازہ ہو جاتا ہے اور انھیں آئندہ کیا سیکھنا ہے اور کیسے سیکھنا ہے اس سے متعلق سمت کا بھی تعین ہوتا ہے۔ غرض کہ ہونا یہ چاہیے کہ طلبا جس قدر سیکھتے جائیں، اسی قدر ان کی جانچ بھی ہوتی رہے۔ یہ جانچ تحریری اور زبانی عملی کام پر مشتمل ہونی چاہیے۔

تمام پڑھے گئے اسباق اور نظموں وغیرہ کا تحصیلی جائزہ ہفتے میں ایک بار، اور اگر ممکن نہ ہو تو، پندرہ دن میں ایک بار ضرور لینا چاہیے۔ اس طرح طلبا پر مواد کے مطالعے کا بوجھ نہیں پڑے گا۔ وہ آئندہ اسباق اور نظموں کو بہتر طور پر سمجھ سکیں گے۔ زبانی جانچ متواتر ہوتی رہنی چاہیے۔ تحصیل اور جانچ کا عمل ساتھ ساتھ ہوتا رہے تو طلبا کو اپنی ترقی کی سمت کا احساس بخوبی ہوتا رہے گا۔ کسی بات کو سیکھ لینے پر جو تسکین ملتی ہے، وہ آئندہ آموزش میں حوصلہ افزائی کا باعث بنتی ہے۔ اس لیے جانچ کے مواقع زیادہ سے زیادہ فراہم کرنے چاہئیں جن کی روشنی میں ایک طرف تو طلبا کی ترقی کا اندازہ ہوتا رہے اور ضرورت کے مطابق ترغیب بھی ملتی رہے تو دوسری طرف نتائج کو سامنے رکھ کر طریقہ تدریس میں بھی

1. اسم کی پہچان اور قسمیں۔
2. اسم اور فعل کا فرق۔
3. ماضی، حال اور مستقبل کا فرق۔
4. جنس، واحد اور جمع کے آسان اصولوں کی پہچان۔
5. ضمیر اور صفت کی پہچان۔
6. حروف جار کی پہچان۔
7. عطف و اضافت کی پہچان۔
8. متضاد الفاظ کی پہچان۔
9. مترادفات
10. محاورے اور کہاوتیں۔
11. رموزِ اوقاف، ختمہ، کوما، واوین، قوسین وغیرہ کا استعمال۔

### مشق اور سوالات

ہر سبق کے آخر میں ایسے سوالات اور مشقیں دی جائیں جو اسباق کے مطالب اور زبان دونوں پر محیط ہوں۔ مشقوں کی ترتیب اس طرح ہونی چاہیے کہ طلبا میں سننے، بولنے، پڑھنے، لکھنے اور غور و فکر کرنے کی صلاحیتوں کی نشوونما ہو سکے اور پڑھے ہوئے اسباق کا اعادہ ہو سکے۔

### سوالات اور مشقوں کی تشکیل

1. سبق کے متن پر مبنی واقعاتی سوالات۔
2. سبق سے متعلق ایسے سوالات جن سے بچوں کو غور و فکر کا موقع ملے۔
3. سبق سے مطلوبہ معلومات تلاش کرنا۔
4. الفاظ کو جملوں میں استعمال کرنا۔
5. ملے جلے الفاظ میں سے صحیح لفظ چن کر استعمال کرنا۔
6. خالی جگہوں کو پُر کرنا۔
7. لفظ کو صحیح تلفظ کے ساتھ پڑھنا۔
8. کتاب میں شامل موضوعات پر آزادانہ اظہارِ خیال کرنا۔



حسب ضرورت تبدیلی ہوتی رہے گی۔

سینئر بورڈ آف سیکنڈری ایجوکیشن لے گا۔

### طریقہ تدریس

ثانوی زبان کی حیثیت سے اردو پڑھانے کے طریقوں پر خصوصی طور سے توجہ دینے کی ضرورت ہے تاکہ طلباء میں دلچسپی پیدا ہو سکے اور جن مقاصد کے پیش نظر یہ نصاب تیار کیا گیا ہے ان کا بہ خوبی حصول ہو سکے۔

اردو پڑھانے کے جدید طریقوں میں اس بات کا خاص خیال رکھا گیا ہے کہ طریقہ تدریس، مضمون مرکز کے بجائے طفل مرکز ہو۔

اس بات کا لحاظ رکھنا ضروری ہے کہ ثانوی زبان کے نصاب کی کسی بھی منزل پر زبان کے تریلی پہلو سے توجہ ہٹنے نہ پائے۔ دوسری مہارتوں پر بھی مناسب توجہ کی ضرورت ہوگی۔ توقع کی جاتی ہے کہ طلباء نویں اور دسویں جماعت میں اردو بہ حیثیت ثانوی زبان پڑھنے کے بعد مادری زبان کی تعلیم کے کم و بیش آٹھویں جماعت کے معیار تک استعداد حاصل کر لیں گے۔

اس بات کا ضرور خیال رکھا جائے کہ متعلقہ نصاب کے جو مقاصد بیان کیے گئے ہیں یا جن لسانی مہارتوں کو پیدا کرنے کی توقع کی گئی ہے، جانچ اور امتحان میں یہ ضرور دیکھا جائے کہ ان مقاصد اور مہارتوں میں سے کوئی ایک بھی نظر انداز نہ ہونے پائے۔

چونکہ اردو بطور ثانوی زبان کا خاص مقصد پڑھنے اور لکھنے کے علاوہ زبان کے تریلی پہلوؤں پر بھی زور دینا ہے تاکہ طلباء بین جماعتی اور بین علاقائی طور پر فعال سماجی اور قومی زندگی میں خاطر خواہ طور پر شریک ہو سکیں، اس لیے امتحان کے طریقہ کار میں زبانی جانچ کو بھی ضرور شامل رکھا جائے۔

نوٹ : نویں اور دسویں جماعت کے کل نصاب کے لیے 100 نمبر کا ایک پرچہ ہوگا جس میں 60 نمبر تحریری امتحان کے اور 40 نمبر زبانی عملی کام کے امتحان کے لیے ہوں گے۔ اس طرح طلباء کی تحریری اور تقریری دونوں صلاحیتوں کی بہ خوبی جانچ ہو سکے گی۔ آخری امتحان

سیکنڈری  
اور  
ہائیر سیکنڈری  
کلاسوں  
کے لیے  
نصاب



## سننا اور بولنا

1 طلبا معیاری زبان میں گفتگو کر سکیں۔ مذاکرہ، بحث و مباحثہ، ریڈیو، ٹیلی ویژن کی بات چیت، ادبی جلسوں وغیرہ میں شامل ہو سکیں۔ زبان کا صحیح استعمال کر سکیں اور روانی سے بول سکیں۔ اپنے جذبات و خیالات کا صحیح اظہار کر سکیں۔ تعریف و تحسین اور طنز و مزاح کا مطلب سمجھ سکیں اور مناسب جواب دے سکیں۔ الفاظ اور اظہار کے مختلف اسالیب کا بر محل استعمال کر سکیں۔

2 بولنے والے کے جذبات اور خیالات کو سمجھ کر اپنی رائے قائم کر سکیں۔

3 کسی خاص نکتے کی وضاحت کے لیے دلائل پیش کر سکیں اور مثالیں دے سکیں۔

4 مضمون پر بحث و مباحثہ اور خیالات کا تجزیہ کر سکیں اور ادبی اقتباسات پر تنقیدی نظر ڈال سکیں۔

5 مختلف ادبی اصناف کی خصوصیات کو سمجھ کر اپنے خیالات کا اظہار کر سکیں۔

6 پڑھے ہوئے مواد پر پوچھے گئے سوالات کے جواب دے سکیں۔  
7 معیار کے مطابق دیے گئے موضوع پر تبادلہ خیال کر سکیں۔  
8 کسی موضوع پر زبانی اور تحریری اظہار کی صلاحیت کا ثبوت دے سکیں۔

9 مختلف زبانوں کے مابین تال میل فراہم کرنا۔

10 بین الاقوامی شہریت کا تصور پیدا کرنا۔

## (ب) پڑھنا اور لکھنا

1 سنی اور پڑھی ہوئی عبارتوں کا خلاصہ لکھ سکیں اور اشعار کی تشریح کر سکیں۔

2 غیر نصابی نثر کا خلاصہ لکھ سکیں۔

3 مختلف ادبی اصناف پڑھ کر اپنے جذبات، خیالات، تجربات اور اپنی رائے کا تحریری اظہار کر سکیں۔

اردو کا شمار ہندوستان کی جدید زبانوں میں ہوتا ہے۔ لہجے کی شیرینی اور وقع ادبی سرمائے کے سبب، بلا لحاظ مذہب و ملت یہ ہندوستان کی ایک مقبول زبان ہے۔ اگرچہ اس کا اصل ماخذ (origin) کھڑی بولی ہے لیکن اس کی تشکیل و تعمیر میں عربی، فارسی اور ترکی کے علاوہ کئی ہندوستانی بولیوں اور زبانوں کے الفاظ شامل ہیں۔ یہ ہماری مشترکہ تہذیب و تمدن کی آئینہ دار ہے اور صدیوں سے مشترکہ تہذیب و ثقافت کی بخوبی ترجمانی کر رہی ہے۔ کیونکہ اس کا خمیر کئی زبانوں سے مل کر تیار ہوا ہے۔ اس لیے ہر جماعت میں اس کی تدریس میں کثیر لسانی عمل (Multi Linguality) کی کار فرمائی نہایت ضروری ہے۔

زبان کی جملہ مہارتوں مثلاً سننا، بولنا، پڑھنا، سمجھنا، لکھنا اور مختلف موقعوں پر اس کا مناسب استعمال حصول متن (Text) کے ذریعے ہی ہونا چاہیے۔

تعلیم کی اس منزل پر قدم رکھنے سے پہلے طلباء دسویں جماعت تک اردو کا بطور مادری زبان مطالعہ کر چکے ہیں۔ امید کی جاتی ہے کہ ان میں سننے، بولنے، پڑھنے اور لکھنے کی صلاحیتوں کی خاطر خواہ نشوونما ہو چکی ہوگی۔ طلبا اب اپنے سماجی اور کاروباری کاموں کے لیے حسب ضرورت زبان کا استعمال کرنے کا شعور بھی حاصل کر چکے ہوں گے۔ وہ نویں اور دسویں جماعتوں میں چوں کہ اردو ادب کا مطالعہ بھی کر چکے ہیں۔ اس لیے

گیارہویں اور بارہویں جماعتوں میں نسبتاً بہتر لسانی اور ادبی قابلیت پیدا کرنا اس تعلیمی نصاب کا بنیادی مقصد ہوگا۔ اس تعلیمی نصاب کے ذریعے طلبا میں ترسیل و ابلاغ، ادب شناسی، تبادلہ خیال، پڑھنے، لکھنے اور مطالعے کی صلاحیتوں میں اضافہ کرنا ہوگا اور زندگی اور اس کے مختلف معاملات کے متعلق انسانی، عالمی اور اخلاقی اقدار کو بھی فروغ دینا ہوگا۔ زبانی اور عملی کام کی جانچ بھی کی جائے گی۔ اس سطح پر جانچ کا مقصد طلبا کو صرف گریجویشن کے لیے ہی تیار نہیں کرنا ہے بلکہ انھیں کامیاب زندگی کے لیے فعال بھی بنانا ہے۔

امتحان کی ذمہ داری اسکول پر ہوگی جب کہ آخری امتحان بورڈ کے ذریعے ہوگا۔



ہندی یا انگریزی عبارت کا اردو میں ترجمہ کرانا۔  
 طلباء میں کثیر لسانی صلاحیت پیدا کرنا۔

### لسانی، قومی اور اخلاقی اقدار

نصابی کتاب تیار کرتے وقت درج ذیل اقدار کا ضرورت کے مطابق خیال رکھنا ہوگا

سچائی، حق، صداقت، نیکی، خیر، بھلائی، خدمتِ خلق، انسان دوستی، بھائی چارہ، تعاون اور ہمدردی محبت، ہمت، حوصلہ، عزم، شجاعت، عدل و انصاف، کام میں پہل کرنا، رہنمائی، ایمانداری، ذمے داری کا احساس اور فرض شناسی، اعلا اصولوں کی پابندی، وقت کی پابندی، حب الوطنی، قومی یک جہتی، جمہوریت، رواداری، تمام مذاہب کا احترام، سوشلزم، مساوات، سب سے برابر کا سلوک، اپنی قومی تہذیبی روایات پر بجا فخر، وطن کے لیے ایثار و قربانی کا جذبہ

4. اقتباسات نظم و نثر میں مضمر جذبات و خیالات کو سمجھ کر اہم نکات کا انتخاب کر سکیں اور ان کی اہمیت کے پیش نظر ان کو مرتب کر سکیں۔

5. بول چال کی زبان اور ادبی زبان کا فرق سمجھنے کی صلاحیت۔

6. اردو زبان اور ادب کے ارتقا کا تعارف۔

7. زبان کے تجزیے کی بنیادی صلاحیت۔

### ذخیرۃ الفاظ

1. مقررہ معیار کے مطابق الفاظ، محاوروں، کہاوتوں اور تراکیب کے علم میں اضافہ۔

2. سابقوں اور لاحقوں کی مدد سے نئے الفاظ بنانا۔

3. مترادف اور متضاد الفاظ کا فرق جاننا اور انھیں استعمال کرنا۔

4. لغت کی مدد سے نئے الفاظ کے مطالب معلوم کرنا۔

طریقہ تدریس : (گیارہویں اور بارہویں جماعت کے لیے)

### نصابی کتابوں کا خاکہ

گیارہویں اور بارہویں جماعتوں کی نصابی کتابیں تیار کرتے وقت درج ذیل شعری اور نثری اصناف کا احاطہ کرتے ہوئے مختلف موضوعات پر مشتمل اسباق شامل کئے جائیں گے۔

نثری اصناف : داستان، ناول، افسانہ، مضمون، انشائیہ، سوانح

عمری، سفرنامہ، خاکہ، رپورٹاژ وغیرہ

شعری اصناف : غزل، قصیدہ، مرثیہ، مثنوی، رباعی، قطعہ، نظم،

آزاد نظم، نظم معری وغیرہ

### اردو ادب کی تاریخ:

1. اردو زبان کے آغاز اور ارتقا کا جائزہ

2. دبستان : دکن، دہلی، لکھنؤ

3. تحریکات : سرسید تحریک، رومانوی تحریک، جدیدیت،

4. نصاب میں شامل اصناف کا تعارف اور ارتقا

مختلف ادیبوں اور شاعروں پر تیار کیے گئے کیسٹ دکھانے اور ان پر گفتگو کرنے کے مواقع فراہم کرنا۔

طلباء کو گروپ میں تقسیم کر کے شامل نصاب ادیبوں اور شاعروں کی زندگی پر مبنی چارٹس اور پمفلٹ تیار کرنا۔

مشہور و معروف ادبی شخصیات کو اسکول میں بلا کر طلباء کے ساتھ ان کی بات چیت کے مواقع فراہم کرنا۔

شامل نصاب اسباق بالخصوص شعری نصاب کی روشنی میں طلباء کے جمالیاتی احساس کو فروغ دینا۔

طلباء کو گروپ میں تقسیم کر کے اردو زبان و ادب کی تاریخ، دبستانوں، رجحانوں اور تحریکوں سے متعلق پروجیکٹ تیار کرنا۔

طلباء میں خیال و اسلوب کی شناخت اور موازنے کی صلاحیت پیدا کرنے کے لیے دوسرے ادیبوں اور شاعروں کے فن کو پڑھنے کے مواقع فراہم کرنا۔



نصاب کے تیس طلبہ کی کمزوریوں یا غلطیوں کا اندازہ لگا کر ان کی خاطر خواہ اصلاح کی جاسکے۔ جانچ کے لیے مختلف قسم کے سوالات وضع کیے جائیں مثلاً: مختصر جواب والے سوالات، طویل جواب والے سوالات، مضمون کی نوعیت کے سوالات۔ علم، معلومات اور اظہار کی صلاحیت کے نقطہ نظر سے بھی سوالات پوچھے جانے چاہئیں۔ زبان کی صلاحیتوں کے فروغ کے تیس زبانی جانچ پر خاص توجہ دی جائے۔

#### امدادی کتابیں

معاون درسی کتابیں (این سی ای آر ٹی)

اردو ادب کی تاریخ (این سی ای آر ٹی)

اردو قواعد کی نصابی کتاب (این سی ای آر ٹی)

#### اردو قواعد

علم بیان: تشبیہ، استعارہ، مجاز مرسل، کنایہ

علم بدیع: صنائع معنوی: ایہام، تجاہل عارفانہ، تلمیح، حسن

تعلیل، حشو، مبالغہ، مراعات النظیر

صنائع لفظی: تجنیس، بکرا، ضلع جگت

فن شاعری: قافیہ، ردیف، وزن، مطلع، مقطع

#### جانچ کا عمل:

نصاب کے تحت نصابی کتاب، قواعد، شعری اصناف پر مشتمل اسباق کی 80 فی صد تحریری اور 20 فی صد زبانی جانچ ضروری ہے۔ سالانہ امتحان کے علاوہ ہر ایک سیشن کے آخر میں امتحان لیا جانا چاہیے تاکہ

S.C.E.R.T., W.B.  
N.C.F., 2005



# عام مرکزی اجزاء

(Common Core Components)

ہندوستان کی حکومت، اتحاد اور یک جہتی کی حمایت کرنا اور اس کی حفاظت کرنا۔

ملک کا دفاع کرنا اور ضرورت پڑنے پر قومی خدمات بجالانا  
مذہبی، لسانی اور علاقائی یا گروہی تنوع کے باوجود ہندوستانی عوام  
میں اتحاد و اتفاق اور بھائی چارے کے جذبے کو فروغ دینا۔  
ایسے رسم و رواج سے دست بردار ہونا جو خواتین کی قدر و منزلت  
کے خلاف ہوں۔

اپنے شاندار مشترکہ تہذیبی ورثہ کا تحفظ اور قدر کرنا  
قدرتی ماحول بشمول جنگلوں، جھیلوں، ندیوں اور جنگلی جانوروں  
کی حفاظت کرنا۔

سائنسی مزاج، انسان دوستی اور تجسس و اصلاح کا جذبہ پیدا کرنا  
جائیداد عامہ (Public Property) کی حفاظت کرنا اور تشدد  
کو ترک کرنا۔

انفرادی اور اجتماعی سرگرمیوں کے سبھی میدانوں میں بہتر کوشش  
کرنا تاکہ ملک رقوم، کوشش اور کامیابی کی اعلا منزلوں کی طرف  
مسلل گامزن ہو۔

ان مرکزی اجزاء کو اسکول کے نصاب میں مناسب طریقے سے  
شامل کرنے کی ضرورت ہے۔ یہ اجزاء یقیناً قومی اشتراک کا شعور اور قدروں کو  
پیدا کرنے میں مددگار ہوں گے اور ایسی قوم رجماعت اور نظام قدر کی تخلیق  
کریں گے جس سے عام ہندوستانی شخص کو تقویت حاصل ہوگی۔

قومی شخص کو تقویت پہنچانے کی ضرورت ہمیشہ رہتی ہے۔ آئین ہند میں دی  
گئی قدروں سے اسکول کے نصاب کو آراستہ کر کے قومی یک جہتی اور سماجی  
اتحاد کو فروغ دینے کی ایک مضبوط دلیل موجود ہے۔ اس کو مد نظر رکھتے ہوئے  
1986 کی قومی تعلیمی پالیسی میں دس مرکزی اجزاء کی شمولیت کو برقرار رکھنے کی  
ضرورت ہے جو حسب ذیل ہیں:

ہندوستان کی تحریک آزادی کی تاریخ

آئین کی پابندی

قومی شخص کی نشوونما

ہندوستان کا عام تہذیبی ورثہ

مساوات، جمہوریت اور سیکولرزم

جنسی مساوات

ماحولیاتی تحفظ

سماجی تفریق کو ختم کرنا

چھوٹے کنبے کے تصور کو فروغ دینا

سائنسی مزاج کا فروغ

ان مرکزی اجزاء کے علاوہ آئین ہند کی آرٹیکل 51A میں مذکورہ بنیادی فرائض کو  
بھی عام مرکزی اجزاء میں شامل کیا گیا ہے۔ یہ بنیادی فرائض درج ذیل ہیں:

آئین کی پابندی اور اس کے اصولوں، اداروں نیز قومی پرچم اور

قومی ترانے کا احترام

ان نیک تصورات و خیالات کی پرورش کرنا اور ان پر عمل کرنا

جنہوں نے جنگ آزادی کی جدوجہد میں روح پھونکی





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